Citation 1

PATENT ABSTRACTS OF JAPAN

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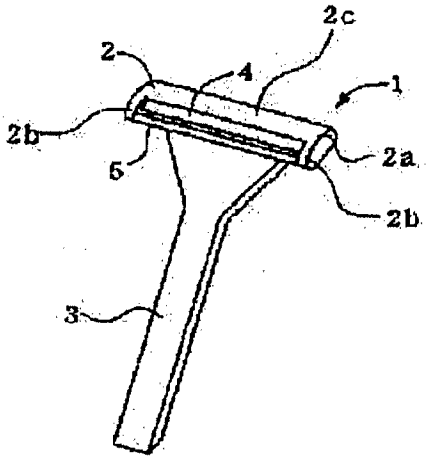
(54) RAZOR DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a razor device capable of solving a problem of shaving leftovers or the like by simply erecting a bread without using both hands.
SOLUTION: A handhold part 3 and a blade base 2 are fitted together into a T-shape to form the razor tool 1 of this razor device, and the opposite face to the assembled portion of the blade base 2 with the handhold part 3 is used as a skin contact face 2a. A razor blade 4 and a roll member 5 serving as a skin pressing member are fitted to the blade bas 2, the roll member 5 has a shaft-like nearly cylindrical outer shape, and its axis is made parallel with the blade line of the razor blade 4. The roll member 5 is fitted at a position precedent to the razor blade 4 in the shaving direction so as to have a portion located at least on the skin contact face 2a side than the extension line of the blade tip direction of the razor blade 4.



Citation 1

Japanese Patent Application Laid-Open No. 2001-276450

Note:
1. This document has been translated by computer of Japan Paten Office. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

[Claim(s)]
[Claim 1]
A razor device raising a mustache which it has razor blades and a skin pressing member which is shaved and is preceded with the razor blades in a direction, and said skin pressing member is pressing the skin, and has grown in the pressed skin.
[Claim 2]
The razor device according to claim 1 with which a portion to which said skin pressing member contacts the skin at least is made into a curved surface.
[Claim 3]
The razor device according to claim 1 or 2 constituted by construction material in which elastic deformation of said skin pressing member is possible.
[Claim 4]
The razor device according to any one of claims 1 to 3 whose elastic deformation said skin pressing member is constituted by hollow shape, and is made possible by the hollow.
[Claim 5]
The razor device according to any one of claims 1 to 4 which has the composition in which the razor device concerned is a manual razor device, and was attached to a tool post in which said razor blades have a skin pressing member fitting part, and said skin pressing member was attached to said skin pressing member fitting part.
[Claim 6]
The razor device according to claim 5 with which said skin pressing member has at least a portion which projects in the skin contact side rather than the edge of a blade of said razor blades.
[Claim 7]
The razor device according to claim 5 or 6 with which said skin pressing member has an axis-like approximate circle pillar outside, and the axis is installed almost in parallel with a cutting line direction of razor blades.
[Claim 8]
The razor device according to any one of claims 5 to 7 with which the axis of rotation is attached to said skin pressing member by said skin pressing member fitting part in the state pivotable as a fulcrum.
[Claim 9]
The razor device according to any one of claims 5 to 8 with which said skin pressing member fitting parts are two projecting parts located in both ends of said tool post, and said skin pressing member is supported by the two projecting parts.
[Claim 10]
The razor device according to claim 9 with which said skin pressing member is made pivotable as a fulcrum in said projecting part.
[Claim 11]
The razor device according to any one of claims 5 to 10 from which said skin pressing member fitting part is attached to the skin contact side rotatable to said tool post, and thrust to the skin of said skin pressing member changes with rotation of the skin

pressing member fitting part.
[Claim 12]
The razor device according to any one of claims 5 to 10 from which a projection height of a portion which said skin pressing member fitting part is attached to the skin contact side rotatable to said tool post, and projects in the skin contact side of said skin pressing member with rotation of the skin pressing member fitting part changes.
[Claim 13]
The razor device according to any one of claims 1 to 4 formed in a position which the razor device concerned is an electric razor device, has a head section which said razor blades are accommodated and is provided with an outer blade, and a body part as a Toride portion, and said skin pressing member shaves, and is preceded with said razor blades in a direction.
[Claim 14]
The razor device according to claim 13 which said electric razor device is an electric razor device which has an inner blade as razor blades of a both-way formula, two copies of inner blades of the both-way formula are formed, and is formed so that said skin pressing member may be located between the two outer blades while being accommodated in an outer blade different, respectively.
[Claim 15]
While said electric razor device is an electric razor device which has an inner blade as razor blades of a both-way formula, and an inner blade of the both-way formula has a crevice in a longitudinal direction and is mostly accommodated in an isomorphism-like outer blade with this inner blade, The razor device according to claim 13 made a head section inserted in said body part from the upper part is equipped with said skin pressing member, and possible [accommodation of the skin pressing member] for said crevice.
[Claim 16]
The razor device according to claim 14 or 15 with which said skin pressing member is attached by flight readiness to said outer blade.
[Claim 17]
The razor device according to claim 14 or 15 with which said skin pressing member is attached by flight readiness to said body part.
[Claim 18]
The razor device according to claim 16 or 17 with which an elastic mechanism is established between said skin pressing member, said outer blade, or said body part, and a skin pressing member is made free movable by the elastic mechanism in shaft orientations of the razor device concerned.
[Claim 19]
The razor device according to any one of claims 13 to 18 made pivotable as a fulcrum in the axis of rotation which said skin pressing member is constituted in the shape of the straight side, and is prolonged in the longitudinal direction.
[Claim 20]
The razor device according to claim 13 with which said electric razor device is a revolving electric razor device which has the head section which an inner blade was attached to a rotor plate as said razor blades, and the inner blade and rotor plate were accommodated, and was provided with an outer blade, and said skin pressing member is attached to an edge part of said outer blade by flight readiness.
[Claim 21]
The razor device according to claim 13 with which said electric razor device is a revolving electric razor device which has the head section which an inner blade was attached to a rotor plate as said razor blades, and the inner blade and rotor plate were

accommodated, and was provided with an outer blade, and said skin pressing member is attached to said outer blade by flight readiness.

[Claim 22]

The razor device according to claim 13 with which said electric razor device is a revolving electric razor device which has the head section which an inner blade was attached to a rotor plate as said razor blades, and the inner blade and rotor plate were accommodated, and was provided with an outer blade, and said skin pressing member is attached to said body part by flight readiness.

[Claim 23]

The razor device according to claim 13 with which said electric razor device is a revolving electric razor device which has the head section which an inner blade was attached to two or more rotor plates as said razor blades, and each inner blade and a rotor plate were accommodated, and was provided with two or more outer blades, and said skin pressing member is attached to said body part by flight readiness.

[Claim 24]

The razor device according to claim 22 or 23 formed with a gestalt which said skin pressing member passes along the central part of said rotor plate, and projects from said head section.

[Claim 25]

The razor device according to any one of claims 21 to 24 with which an elastic mechanism is established between said skin pressing member and said body part, and a skin pressing member is made free movable by the elastic mechanism in shaft orientations of the razor device concerned.

[Claim 26]

Said skin pressing member a projection amount of the skin pressing member two or more steps or in order to change without going through stages, The razor device according to any one of claims 13 to 25 with which a means for locking which is attached to said body part via a sliding mechanism so that a slide is possible, and fixes a position after a slide of the skin pressing member is provided.

[Claim 27]

Said skin pressing member is attached to the skin pressing member by support member supported to shaft orientations, and it said sliding mechanism, A slide of said support member is enabled because the main part side uneven part provided in said body part and the support member side uneven part provided in said support member change a fitting position, and a projection amount of said skin pressing member is two or more steps or the razor device according to claim 26 changed without going through stages.

[Claim 28]

The razor device according to any one of claims 13 to 27 formed to said head section which said skin pressing member equipped with said outer blade enabling free attachment and detachment.

[Claim 29]

The razor device according to any one of claims 13 to 27 with which said skin pressing member is constituted in one with said outer blade.

[Claim 30]

The razor device according to any one of claims 1 to 29 with which a shaving means for shaving a mustache is formed in said skin pressing member.

[Claim 31]

Mustached induction of netted or slit shape is provided in a position which is different from a portion which presses the skin of the skin pressing member concerned in said skin pressing member, The razor device according to claim 30 which is what shaves a

mustache with which an inner blade is furthermore formed in an inside of this skin pressing member, and said shaving means was introduced into said mustached induction with said inner blade.

[Claim 32]

The razor device according to any one of claims 1 to 31 with which unevenness for making thrust to the skin larger than other portions at two or more places is provided in said skin pressing member.

[Claim 33]

The razor device according to any one of claims 1 to 32 with which minute unevenness which reduces frictional force with the skin is provided in said skin pressing member.

[Claim 34]

The razor device according to any one of claims 1 to 33 with which the 2nd skin pressing member that in addition to said skin pressing member is shaved and carries out backward to the razor blades in a direction is provided in the razor device concerned.

[Claim 35]

The razor device according to any one of claims 1 to 34 with which said skin pressing member comprises two members, and the two members are made removable.

Detailed Description of the Invention]

[0001]

[Field of the Invention]

This invention relates to a razor device.

[0002]

[Description of the Prior Art]

A conventional electric razor device or manual razor device etc. has a body part or a handle portion single hand, presses a cutting part against the skin of a shaving position, and shaves it. Then, usually the skin of the neighborhood where the cutting part has hit by another hand was shaved, while tension raised the mustache of a shaving position to the skin.

[0003]

It is necessary to use both hands at the time of shaving, and when above, it is troublesome, and raising a mustache moreover may shave difficultly and it may produce problems, such as remnants. Then, the means for pulling the skin, for example to a razor device is formed, and it is carrying out so that a mustache may be made to stand.

[0004]

[Problem(s) to be Solved by the Invention]

However, by such a tensile means, as tension, a mustache cannot be made to stand effectively, but the skin may be shaved, and problems, such as remnants, may be produced. There is SUBJECT of this invention in providing the razor device which can raise a mustache, can shave it simply and effectively and can solve problems, such as remnants, even if it does not use both hands.

[0005]

[Means for Solving the Problem and its Function and Effect]

In order to solve an aforementioned problem, a razor device of this invention has razor blades and a skin pressing member which is shaved and is preceded with the razor blades in a direction, and a mustache which a skin pressing member is pressing the skin and has grown in the pressed skin is raised. If it precedes with razor blades, and a skin pressing member forces the skin of a shaving position and strains it when pressing a razor device of such composition against a face and shaving a mustache, It can shave raising a

mustache of a periphery of a forced shaving position effectively to the skin, and bristling it up unlike what is depended on a tensile means like before. Therefore, a mustache can be easily shaved from near a root, it can shave, and problems, such as remnants, can be solved.

[0006]

The above-mentioned skin pressing member is good to make into curved surface shape a portion which contacts the skin at least. If it does in this way, while becoming possible to press smoothly to the skin, at the time of press, the touch is good, becomes what has a few stimulus also to the skin, and that also of worries about surface deterioration is lost. When a curved surface presses the skin, sebum comes out, for example from the skin, smooth shaving becomes possible, and it leads also to prevention of surface deterioration etc. If thrust to the skin can be moderately changed if construction material in which elastic deformation is possible constitutes a skin pressing member, for example, a skin pressing member is constituted in hollow shape, an elastic deformation mechanism can be given easily.

[0007]

It becomes difficult to produce a problem etc. which wipe off pre-shave lotions, such as cream, etc. ahead of razor blades by pressing a shaving position by the above skin pressing members of composition compared with what has corniform, for example when a skin pressing member is made into a curved surface. Since a mustache can be effectively shaved from a root by one shaving, it becomes unnecessary to shave the same part repeatedly, and shaving can be performed also to a curly beard etc. in a short time. It is possible to shave downy hair etc. certainly, it shaves, and a next skin becomes fascinating.

[0008]

A manual razor device which has the composition in which it was attached to a tool post in which razor blades have a skin pressing member fitting part as a concrete mode of the above-mentioned razor device, and a skin pressing member was attached to the skin pressing member fitting part can be illustrated. In this case, it is good to constitute as what has at least a portion which projects a skin pressing member in the skin contact side rather than the edge of a blade of razor blades, for example. If it does in this way, a skin pressing member which projects in the skin side can press the skin effectively, and can raise a mustache of a shaving position to the skin.

[0009]

On the surface, the above-mentioned skin pressing member is good to have at least a slot which does not contact the skin. Since a skin pressing member is preceded rather than razor blades and presses the skin, when pre-shave lotions, such as cream, etc. are applied to the skin, a problem which wipes off the pre-shave lotion previously may arise, but. In the above-mentioned composition which provided a slot, it controls that a slot wipes off a pre-shave lotion etc. A smooth razor can be performed by this and a trouble over the skins (skin), such as rash caused by shaving, can also be prevented now.

[0010]

It is good to use an outside of the above-mentioned skin pressing member as an axis-like approximate circle pillar, and to install the axis almost in parallel with a cutting line direction of razor blades. In this case, since the skin is suppressed a curved surface of a skin pressing member of an approximate circle pillar installed almost in parallel with a cutting line direction of razor blades sliding on a skin top smoothly, ****** can be performed efficiently. The skin pressing member can perform still smoother ******, if the axis of rotation is attached pivotable as a fulcrum, for example.

[0011]

In such a manual razor device, although a skin pressing member is attached to a skin pressing member fitting part, As the concrete mode, skin pressing member fitting parts shall be two projecting parts attached to both ends of a tool post, and a skin pressing member shall be supported by the two projecting parts. According to such composition, it can be possible to facilitate a manual razor device concerning this invention, and part mark can also be omitted now. If a skin pressing member is made pivotable by making a projecting part into a fulcrum in this case, it will become possible to perform a smooth razor act with simple composition.

[0012]

On the other hand, if a skin pressing member fitting part is attached rotatable to a tool post, according to rotation of the skin pressing member fitting part, thrust to the skin of a skin pressing member can be changed. A projection height of a portion which projects, for example in the skin side of a skin pressing member can also be changed by rotation of a skin pressing member fitting part in this case. Such composition enables it thrust to the skin, and to change a mustached standing-up condition variously further.

[0013]

It has a head section in which razor blades are accommodated, and a body part as a Toride portion as another concrete mode of the above-mentioned razor device, and an electric razor device formed in a position which a skin pressing member shaves and is preceded with razor blades in a direction can be illustrated. For example, in the case of an electric razor device of a both-way formula, two copies of razor blades (inner blade) of a both-way formula can be provided, each can be accommodated in a different outer blade (formed in a head section), and the skin pressing member can be attached to an outer blade or a body part by flight readiness so that a skin pressing member may be located between two outer blades.

[0014]

While the razor blades (inner blade) have a crevice and are mostly accommodated in an isomorphism-like outer blade with this inner blade as an electric razor device which has razor blades of a both-way formula, a head section inserted in a body part from the upper part is equipped with a skin pressing member, and accommodation of the skin pressing member can be enabled in a crevice at it. When attaching a skin pressing member to an outer blade, it is good to attach in the state where it was grasped, for example between two outer blades. Thus, also in an electric razor device which has razor blades of a both-way formula, a close shave is effectively realizable by providing a skin pressing member.

[0015]

In such an electric razor device, an elastic mechanism which consists for example, of a spring member etc. between a skin pressing member, an outer blade, or a body part can be established, and a skin pressing member can be made free movable to shaft orientations of the razor device concerned according to the elastic mechanism. In this case, it becomes possible to change thrust to the skin free. By work of an elastic mechanism, even if it does not stuff a razor device into skin forcibly, the skin can be pressed effectively, and a mustache can be stood up. Shaft orientations of a razor device refer to a longitudinal direction of the razor device concerned.

[0016]

In an electric razor device of the above-mentioned both-way formula, a skin pressing member can be constituted for example, in the shape of the straight side, and this skin pressing member can be attached for the axis of rotation prolonged in the longitudinal direction in the state pivotable as a fulcrum. In this case, while a skin pressing member rotates, in order to press the skin, the electric razor device concerned shaves, a slide to a

direction becomes good and smoother shaving of it becomes possible. The axis of rotation can be constituted as a pin which projects from a body part (case part) of for example, an electric razor device, and can provide a skin pressing member to the pin, enabling free attachment and detachment.

[0017]

Razor blades (inner blade) are attached to a rotor plate, for example, and, in the case of a revolving electric razor device which has the head section provided with an outer blade with which the razor blades and rotor plate are accommodated, a skin pressing member can be provided in an edge part of the outer blade by flight readiness. In this case, since it precedes with razor blades and a skin pressing member presses the skin even if I will shave a mustache from which direction, a mustache can be effectively raised in a free direction.

[0018]

A skin pressing member can be attached to a body part as said outer blade or a handle portion, further, also in such a revolving razor device, it can pass along the central part of said rotor plate, and it can provide it with a gestalt which penetrates and projects from an outer blade. Even if I will shave a mustache from which direction also in this case, it precedes with razor blades (inner blade), and a skin pressing member presses the skin. The above composition can be introduced also about a revolving electric razor device with which two or more outer blades were formed.

[0019]

If an elastic mechanism which consists for example, of a spring member etc. is established between a skin pressing member and a body part like an electric razor device of a both-way formula, a skin pressing member can be made free movable to shaft orientations of the razor device concerned according to the elastic mechanism, and it is possible to change thrust to the skin free.

[0020]

In the above-mentioned both-way formula and a revolving electric razor device, a projection amount of the skin pressing member for a skin pressing member two or more steps or in order to change without going through stages, A means for locking which attaches to a body part via a sliding mechanism so that a slide is possible, and fixes a position after a slide of the skin pressing member can be provided. In this case, according to the various purposes and a use, it becomes possible to adjust gradually a projection amount from an outer blade of a skin pressing member. The main part side uneven part which a support member supported to shaft orientations specifically attached a skin pressing member to the skin pressing member, and was provided in a body part, A slide of a support member can be enabled because the support member side uneven part provided in a support member changes a fitting position, and a projection amount of a skin pressing member can consider it as two or more steps or a thing changed without going through stages.

[0021]

In addition to a skin pressing member which is shaved and is preceded with razor blades in a direction, the 2nd skin pressing member that carries out backward to the razor blades can be provided in the razor device concerned. In this case, razor blades serve as composition inserted into a skin pressing member preceded with those razor blades, and the 2nd skin pressing member that carries out backward to razor blades, the press effect of that pinched portion (skin) increases further, and a close shave of them is still attained between both skin pressing members. When it comprises two skin pressing members in this way, the two skin pressing members can be made removable. In this case, distance of a portion which is pinched by two skin pressing members and pressed can be set up

arbitrarily, and it becomes possible to choose that distance according to a user. It is possible by changing distance of these two skin pressing members to change pressing quantity of the skin delicately.

[0022]

A skin pressing member can be provided to a head section provided with an outer blade, enabling free attachment and detachment. In this case, it becomes possible to exchange according to an individual's liking out of two or more kinds of skin pressing members mentioned later, or to choose separately corresponding to an individual skin and a mustached state. A skin pressing member can also be constituted in one with an outer blade. In this case, a head section consists of an outer blade and a skin pressing member, it is possible to manufacture an outer blade and a skin pressing member by one by press working of sheet metal etc. in a manufacturing process, and reduction of a manufacturing cost is attained.

[0023]

A shaving means for shaving a mustache can be formed in the above-mentioned skin pressing member. In this case, since an effect of shaving a mustache to a skin pressing member in addition to an effect of raising a mustache is also given, shaving time is shortened further. Mustached induction of netted or slit shape shall be provided in a different position from a portion which presses the skin of the skin pressing member concerned as the concrete mode, and a position which does not contact the skin in detail, an inner blade shall be further formed in an inside of this skin pressing member, and a mustache introduced into mustached induction shall be shaved with an inner blade. In this case, since mustached induction of netted or slit shape does not contact skin directly, without checking the press effect of the skin, Generating of mustached induction hurting its skin can be prevented, a skin pressing member can realize smooth shaving in contact with direct skin, and the further shortening of time concerning shaving is attained by having formed the above-mentioned shaving means further.

[0024]

In a skin pressing member, two or more unevenness for making thrust to the skin larger than other portions at two or more places shall be provided, and the heights shall massage skin to it. In this case, while making it easy for a skin pressing member to press skin at the time of shaving, and to raise a mustache and to shave it, skin will be massaged by the above-mentioned unevenness and a beauty effect will also be added. Minute unevenness which reduces frictional force with the skin can also be formed in a skin pressing member, and a skin pressing member will contact it still more smoothly to the skin by this.

[0025]

[Embodiment of the Invention]

Hereafter, an embodiment of the invention is described with reference to the example shown in a drawing. Drawing 1 is a whole perspective view showing the razor implement 1 as one example of the razor device of this invention. The razor implement 1 is what is called a T shape razor with which the handle portion 3 and the tool post 2 were attached in the shape of a T character so that those axes might cross, and the attachment portion with the handle portion 3 and the field of the opposite hand are made into the skin contact surface 2a in the tool post 2. The razor blades 4 and the roll member 5 as a skin pressing member are attached to the tool post 2, and the roll member 5 is formed in it with the gestalt grasped between fitting part (skin pressing member fitting part) 2b and 2b which were projected in the direction from the both ends of the tool post body part 2c. The tool post 2, the handle portion 3, and the roll member 5 comprise construction material with few stimuli, for example to the skins, such as resin material, especially antibacterial

resin material. In the example of this drawing 1, although the razor implement of an one-sheet edge was illustrated, it is also possible to use what was constituted with two or more edges, such as a two-sheet edge and a three-sheet edge.

[0026]

The physical relationship of the razor blades 4 and the roll member 5 is explained referring to drawing 2 and drawing 3. The roll member 5 has an axis-like approximate circle pillar outside, and the axis is made parallel with **** of the razor blades 4. The roll member 5 is attached as the position which is shaved rather than the razor blades 4 and preceded with a direction as shown in drawing 3 has at least a portion located in the skin contact surface 2a side rather than the edge line A1 top of the razor blades 4. In this case, when the roll member 5 presses the skin first when the skin contact surface 2a is made to contact the skin and the skin is pressed slightly, and it presses still more slightly, the razor blades 4 contact the skin. As for the tool post body part 2c of fitting part 2b and 2b, in order that the roll member 5 may press the skin effectively, it is [the roll member 5] preferred to provide so that it may be located in the end of a different side and may have the skin contact surface 2a and a common field at least. It is not restricted to an approximate circle pillar outside, but the portion which contacts the skin at least should just be made into the curved surface, and the roll member 5 can adopt the thing of hollow shape and the shape of pure.

[0027]

Although the roll member 5 is fabricated by one to the tool post 2, as shown in drawing 4, it can form the projecting parts 8 and 8 in each fitting part 2b in the state of facing mutually, respectively, and can also form the roll member 5 removable to the projecting part 8. In this case, when what is necessary is to form the pore 7 in the both ends of the axis-like roll member 5, and just to insert each projecting part 8 in that pore 7, for example and this razor implement 1 is actually used, it is possible to make the projecting part 8 into a fulcrum and to rotate the roll member 5. Fitting part 2b (portion in which the projecting part 8 is formed) which grasps the roll member 5 of the tool post 2, For example, when it constitutes from resin etc. in which elastic deformation is possible and inserts the roll member 5 in the projecting part 8, elastic deformation of each fitting part 2b and the 2b can be carried out in the direction of ** length, it can insert in, and the roll member 5 can be grasped according to the elastic return force in a holding state.

[0028]

It is also possible to attach the skin pressing member 5 to the tool post 2 using the supporters 11 and 11 as shown in drawing 5. This is made into the gestalt with which the semicircular pillar-like skin pressing member 5 was laid in the supporter 11 which has a flat field by continuation from each fitting part 2b. If the supporter 11 is constituted so that elastic deformation is possible, the supporter 11 will become rotatable in the direction of skin contact surface 2a by the elastic deformation, and will become rotatable [the skin pressing member 5] in the direction of skin contact surface 2a in connection with it. If rotation of each supporters 11 and 11 is enabled in the direction different, respectively and the skin pressing member 5 is also constituted from construction material in which elastic deformation is possible, in accordance with unevenness of the surface of a face, the skin pressing member 5 can contact the skin smoothly, and press of the effective skin will be attained.

[0029]

The slot 6 cut off by the diameter direction in the pillar side besides cylindrical voice as shown in drawing 6 (b) as the above-mentioned roll member (skin pressing member) 5 was shown in drawing 6 (a) -- 1 -- or more than one can be provided. In this case, when it lets the roll member 5 slide in contact with a skin surface, the roll member 5

can be prevented from wiping off pre-shave lotions, such as cream, etc. ahead of the razor blades 4 in the slot 6. The sphere 51 as shown in drawing 6 (c) may use the thing of the gestalt which led to the axial direction of the roll member 5 concerned continuously, and the slot 6 as shown in drawing 6 (d) may use the thing of the gestalt connected continuously spirally. In this case, the effect that a spiral slot raises a mustache one by one, and ****** are **. Fields which contact the skin at least, such as the shape of a semicircular pillar, are able to adopt the thing used as a curved surface to the gestalt of drawing 6 (b) - drawing 6 (d), without being caught by cylindrical voice about each example of these skin pressing member. The roll member 5 can be made into hollow shape, and elasticity can also be demonstrated by the hollow.

[0030]

If such a razor implement (razor device) 1 is used for shaving, an effect as shown in drawing 7 will be acquired. Drawing 7 (a) is in the state of the mustache at the time of usual [which is sleeping in the direction of predetermined in the mustache 9 to the skin 10]. While the roll member 5 will press the skin 10 as shown in drawing 7 (b) if the razor implement 1 of this invention is used here, the mustache 9 is changed into the state where it stood up to the skin 10. If the razor implement 1 is shaved and it lets it slide in a direction as shown in drawing 7 (c), while the skin 10 had been pressed, a mustache can be shaved by the razor blades 4 in the state where the mustache 9 has stood up, and a close shave becomes possible, it shaves, and remnants can also be reduced.

[0031]

As shown in drawing 40, the 2nd skin pressing member 5a can also be formed in the position which the razor blades 4 shave and carries out backward to a direction. The 2nd skin pressing member 5a can be considered as the same composition as the skin pressing member mentioned above. In this case, as shown in drawing 43, the razor blades 4, It becomes the composition which shaves to the skin pressing member (1st skin pressing member) 5 which is shaved and is preceded with a direction, and the 2nd skin pressing member 5a that is shaved and carries out backward to a direction, and is inserted in a direction, the press effect of the pinched portion (skin 10) increases further, and raises much more effectively the mustache which grows among both the skin pressing members 5 and 5a, and the further close shave of it is attained. It is prevented thru/or controlled that the razor blades 4 hit an acute angle to skin in this case by the 2nd skin pressing member 5a. That is, it is possible for the 1st and 2nd skin pressing members to be formed in the side which contacts the skin rather than razor blades, to have an angle of razor blades in case both they 1st and the 2nd skin pressing member contact the skin, and to specify the angle equivalent to the skin of razor blades.

[0032]

It becomes effective pressing it to the skin, so that it brings close to the edge of a blade of the razor blades 4, as shown the 2nd skin pressing member in drawing 41 (a), and the slide over the skin also becomes good. The skin pressing member is constituted as a semicircular pillar-like member in this case. As shown in drawing 41 (b), the skin contact surface 2a of the razor blades 4 is possible also for forming the skin pressing member 5c also in an opposite hand.

[0033]

On the other hand, drawing 42 shows typically the example of installation of the skin pressing member in the so-called razor implement of a two-sheet edge type which comprised the razor blades 4 and 4a of two sheets. In drawing 42 (a), the 1st skin pressing member 5 is formed in the position which the 1st razor blades 4 shave and is preceded with a direction, and the 2nd skin pressing member 5a is formed in the position which carries out backward. Backward is carried out to this 2nd skin pressing member 5a, the

2nd razor blades 4a are located, and the 3rd skin pressing member 5c is formed in the position which carries out backward to those 2nd razor blades. As shown in drawing 42 (b), it is also possible to also omit the 3rd skin pressing member 5c and for it to be possible, to omit the 1st skin pressing member 5, as shown in drawing 42 (c), and to constitute the 2nd and 3rd skin pressing member 5e and 5d as a semicircular pillar-like member. As are shown in drawing 42 (d) and (e), and the skin pressing members 5f and 5g can be formed also in an opposite hand in the skin contact surface 2a of the 1st razor blades 4 and/or the 2nd razor blades 4a and it is further shown in drawing 42 (f), Also in the composition provided with the skin pressing member 5a of one between the 1st razor blades 4 and the 2nd razor blades 4a, it is possible to demonstrate sufficient skin press effect.

[0034]

Although the razor implement 1 of drawing 1 was a T character-like razor implement, the skin pressing member which is shaved and is preceded with razor blades in a direction can also be attached to the knife type razor implement 15 of Western style as shown in drawing 8. In this, the razor blades 16 are attached to the body part (tool post) 15a of the razor implement 15, and the handle portion 15b is formed in parallel to **** of the razor blades 16. And the splices (skin pressing member fitting part) 18 and 18 located in the both ends of the razor blades 16 are attached to the tool post 15a, the splice 18 is formed in a U shape and the roll member 17 is attached to the end. Also in this case, as shown in drawing 9, the axis 19 is made into a fulcrum, the splice 18 is made rotatable in the thickness direction of razor blades, and the roll member 17 is similarly rotated by that rotation.

[0035]

A skin pressing member can also be provided in the electric razor device 40 as shown in drawing 10. Two copies of razor blades (inner blade) of a both-way formula are provided, and, as for this electric razor device 40, razor blades are accommodated in the outer blade 41 and 41 different, respectively which curved to convex. As shown in drawing 12 (a), between the two outer blades 41 and 41, it is attached so that the same skin pressing member 31 as the above may become movable to the shaft orientations of the razor device 40 concerned. That is, with the gestalt over the two outer blades 41 and 41, the supporting plate 44 is attached between the outer blade 41 and 41, and can bob to the shaft orientations of the razor device 40. The skin pressing member 31 shall be attached to the supporting plate 44, and shall move with floating of the supporting plate 44. This skin pressing member 31 is also constituted by the construction material in which elastic deformation is possible, and the tip of the side which contacts the skin has the roll part made into curved surface shape. The numerals 46 have pointed out the above-mentioned razor blades (inner blade), and are installed in the state where it can vibrate to the body part 40a.

[0036]

In this case, also when shaving a mustache from which direction among each outer blades 41 and 41, the skin pressing member 31 can precede with the outer blade 41, the skin can be contacted, the skin can be pressed effectively, and a mustache can be raised. For example, as shown in drawing 18 (a) and (b), it becomes possible to shave off effectively also to the mustache which grew in different direction. Namely, if it lets it slide, pressing the razor device 40 in the direction contrary to the direction in which the mustache went to sleep when shaving the mustache 20 which went to sleep in a certain direction with the above-mentioned razor device 40 like drawing 18 (a), The head section (constituted by an outer blade and the inner blade) 150 which carries out backward to the skin pressing member 31 can fail to shave in the state of receiving the mustache (portion

in [B] a figure) which the skin pressing member 31 raised. To the mustache which went to sleep to the counter direction like drawing 18 (b) on the other hand, it can be failed by letting the razor device 40 concerned slide in the direction contrary to drawing 18 (a) to shave the mustache (portion of the numerals C) which stood up by one head section 160. Thus, the razor device 40 is making itself go back and forth to a face and letting it slide, and it becomes possible to fail to shave from a root the mustache which grew in all direction. Few grooved crevices are formed between the skin pressing member 31 and the head section 150,160, and the mustache which entered between the slot is shaved by the head section 150,160 which stands up and carries out backward.

[0037]

If elastic mechanisms, such as a spring, are established between the skin pressing member 31 and the body part 40a as shown in drawing 12 (b), it becomes possible to change the projection amount from the outer blade 41 of the skin pressing member 31 like drawing 11, and various thrust to the skin can be adjusted. Although such an elastic mechanism is provided in the above-mentioned supporting plate 44 which receives the skin pressing member 31, it is also possible to provide in the body part 40a side, as shown in drawing 12 (c). Like drawing 12 (d), there is no supporting plate 44 which attaches the skin pressing member 31 then to the outer blade 41, and it can also be attached via an elastic mechanism to the body part 40a.

[0038]

As shown in drawing 21, the skin pressing member 31 can change the projection amount from the outer blade 41 into two or more steps or a stepless story with a sliding mechanism. This is that by which the axis-like support member 48 was attached to the end surface of the skin pressing member 31, as notionally shown in drawing 21 (a), Two or more uneven parts 48a for fitting are formed in the side of this support member 48, and the slide is made free because the heights 49a provided in the stopper part 49 to this uneven part 48a change a fitting position.

[0039]

The compression member (means for locking) 110 for carrying out compression maintenance of the fitting state (locked position) of these stopper parts 49 and the support member 48 is formed in the outside of the stopper part 49, Towards the opening 110a to the bottom 110b side, this compression member 110 is a roughly U-shaped member with an earthenware mortar-like hollow, and is compressing the stopper part 49 by that hollow. If the compression member 110 is moved to the above-mentioned hollow side (the opening 110a and an opposite hand) as shown in drawing 21 (b), the compression to the stopper part 49 will be opened wide, the fitting state of the stopper part 49 and the support member 48 will be canceled, and the support member 48 will become movable to shaft orientations. The projection amount from the outer blade 41 of the skin pressing member 31 can be changed now with movement of the support member 48. As shown in drawing 21 (c), both contacting parts can be made flat, without providing unevenness or heights in the support member 48 and the stopper part 49, and the slide of the support member 48 can also be gradually enabled only by compression of the compression member 110. Namely, what is necessary is just to cancel compression of the compression member 110 like the above, when compression maintenance of the stopper part 49 and the support member 48 is carried out by the compression member 110, and both are fixed by the compression, when making the skin pressing member 31 into immobilization to shaft orientations, and moving the skin pressing member 31.

[0040]

About a sliding mechanism, a mechanism as shown in drawing 22 is also employable. This is the composition that two or more uneven parts 115a were formed in

the body part side fitting part 115, and on the other hand the heights 112 which fit into the uneven part 115a were formed in the support member 48. The stopper part 113 which bars movement of the heights 112 is formed in a support member, and elastic deformation of the stopper part 113 is made possible so that fitting with the uneven part 115a of the heights 112 may not separate. When moving the skin pressing member 31, elastic deformation of the stopper part 113 is carried out, the stopper part 113 is moved to the position to which movement of the heights 112 is permitted, and it is made for fitting of the heights 112 to separate from the uneven part 115a.

[0041]

Namely, the heights 112 which fitted into the uneven part 115a as shown in drawing 22 (b), Are keeping fitting to the crevice of the uneven part 115a from separating by the stopper part 113, and to slide the support member 48. The knob 114 provided in the stopper part 113 is operated, and the stopper part (pressing to an arrow direction on a drawing) 113 is moved, and suppose at the crevice 113a side in which the heights 112 were formed by the stopper part 113 as shown in drawing 22 (c) that it is movable. As a result, fitting of the heights 112 can be removed from the crevice of the uneven part 115a, it becomes possible to change a fitting position to the crevice where the uneven parts 115a differ, and it becomes possible to change movement to the shaft orientations of the support member 48, i.e., the projection amount of the skin pressing member 31.

[0042]

Drawing 23 shows an example by which the knob 114 was formed in the body part 40a, the support member 48 moves by operating the knob 114 to the sliding direction of the razor device 40 in this way up and down, and the projection amount of the skin pressing member 31 changes in connection with it. Let the numerals 111 shown in drawing 22 (a) be a guide member for guiding movement of shaft orientations in the support member 48.

[0043]

As drawing 24 is a mimetic diagram explaining the operation at the time of forming such a sliding mechanism and it was shown in the figure (a), When the crowning of the skin pressing member 31 is mostly located on the same field with the field T1 formed of the curve crowning of the two outer blades 41 and 41, the skin pressing member 31 is a lowest point of a slide, and as shown in the figure (b) by operating the above-mentioned knob 114 up, the skin pressing member 31 projects slightly from the field T1. If the knob 114 is furthermore operated up, maximum points will be reached as shown in the figure (c). On the contrary, the skin pressing member 31 is drawn in the inside of body part 41a from the figure (c) by operating the above-mentioned knob 114 caudad to (a).

[0044]

As shown in drawing 25, the above-mentioned support member is made into the gestalt which projects from the side of the razor device 40, the projected portion 47 can be used as the above-mentioned knob (114), the lobe 47 can be operated, and the skin pressing member 31 can also be moved to shaft orientations. Drawing 26 is a mimetic diagram showing an attachment gestalt with the body part 40a with the support member 48 in a razor device with the lobe, and the skin pressing member 31, To the body part side fitting part 115 provided in the body part 40a, it has the above-mentioned heights 112 and becomes the composition which fits in the skin pressing member 31 and the support member 48 formed in one. And the knob 114 provided in the side of the razor device 40 is operated, and it becomes possible to move the support member 48 31, i.e., a skin pressing member, to shaft orientations.

[0045]

The sliding mechanism using a screw as shown in drawing 27 can also be

introduced. As this shows drawing 27 (a) which is a cross section (it ****s and only the member is expanded in order to understand easily, and size relations are not regular) of the razor device 40, The conclusion male screw member 116 which penetrates the one side face of the body part 40a is accommodated in the body part 40a, and is screwing in the skin pressing member 31 which has a female screw part. the conclusion male screw member 116 -- fastening (it screws in a fastening direction) -- screwing with the skin pressing member 31 progresses, if these both will be in the state of paying well mutually and exceed a certain fixed fastening force, both will be bound tight via the one side part of the body part 40a, and the skin pressing member 31 will be in immobilite. That is, according to fastening force, in drawing 27 (a), the skin pressing member 31 is carried out in the direction perpendicular to space at immobilite, conversely, by loosening the conclusion male screw member 116, bolting of both becomes weaker and the skin pressing member 31 can be moved with the conclusion male screw member 116.

[0046]

As shown in drawing 28, the support member 48 with the above-mentioned sliding mechanism and the skin pressing member 31 can also be connected via the elastic means of spring 120 grade. In this case, it can carry out movable [of the skin pressing member 31] to the shaft orientations of a razor device gradually with a sliding mechanism, And corresponding to the surface shape of the skin, the skin pressing member 31 can expand now and contract free with the elasticity of the spring 120, and it becomes possible for a user's mustache to grow and to use it in various modes in accordance with a state and the shape of a face form.

[0047]

As shown in drawing 13 (a), the skin pressing member 31 of these electric razor device 40 can form the pore 34a inside the portion which contacts the skin, can make it hollow shape, and can be considered as the composition in which elastic deformation is possible by the hollow. On the other hand, as shown in drawing 13 (b), the tip part which contacts the skin can also introduce the skin pressing member 35 of the approximate circle pillar made into curved surface shape, and in addition to the composition of such a pillar, drawing 13 (c) forms the pore 36a, and makes elastic deformation possible. On the other hand, drawing 13 (d) and (e) is the modification which made the hollow end of the skin pressing member of the figure (a) and (c) the letter of seal by sticking by pressure etc. without carrying out an opening. In this case, ** can be prevented from a mustache etc. shaving and entering in the hollow 37a and 38a.

[0048]

Drawing 29 is a top view (a) of the electric razor device 60 of drawing 10, and a cross section (b) of the head section. The projection amount from the outer blade 41 of the skin pressing member 31, As shown in drawing 29 (b), the maximum height of the skin pressing member 31 may consider it as the projection amount zero which become the same as the maximum height of the outer blade 41, or it may be made to project from the outer blade 31 slightly, or it may sink slightly and may constitute so that it may become lower than the maximum height of the outer blade 31. It is possible to raise a mustache in the case of which, and shaving with few stimuli can be performed to a close shave and skin.

[0049]

Next, the modification of a skin pressing member provided in the electric razor device 60 is explained. Drawing 30 is a top view (a) of the electric razor device of composition of that the two skin pressing members 31 and 31 were formed between the two outer blades 41 and 41, and the skin pressing member 31a was formed between the two more skin pressing members 31 and 31, and a cross section (b) of the head section.

In this case, the skin pressing member 31a provided between the two skin pressing members 31 and 31 can be constituted, for example from a member gentle to skins, such as silicon, and shaving with few stimuli can be realized to skin.
[0050]

Skin pressing members, such as such cylindrical shape, can be surrounded in a hoop direction by a flexible roll member, as shown in drawing 46, and a new skin pressing member can also be constituted. Drawing 46 (a) is a top view of the electric razor device, the figure (b) is a cross section of the head section, and the figure (c) is a perspective view showing the skin pressing member 31 typically. In this case, two or more (for example, 3) parallel of the cylindrical member 318 is carried out, the flexible resin sheet (roll member) 317 encloses two or more [those], the skin pressing member 31 is constituted, and this skin pressing member 31 is arranged between the two outer blades 41 and 41. In the skin pressing member 31 of this composition, since it comprises construction material with the flexible roll member 317, the hit to skin can become gentle and can realize still smoother shaving. The cylindrical member 318 can also be considered as the composition which did not need to make two or more not necessarily able to arrange in parallel, and could also arrange with the gestalt which unevenness produces by two or more, and enclosed the one cylindrical member 318 by the above-mentioned roll member 317.
[0051]

As shown in drawing 31, the skin pressing members 31b and 31b can be formed also in the side (side which counters with the position in which the skin pressing member 31 was formed) of the outer blades 41 and 41, respectively independently [the skin pressing member 31 provided between the two outer blades 41 and 41]. Even if drawing 31 is a top view (a) of an electric razor device, and a cross section (b) of that head section, and which outer blade is made to precede between two outer blades in this case and it performs shaving, It is possible for each skin pressing member 31b to precede with the outer blade 41 (namely, razor blades 46 (refer to drawing 12)), to press the skin, and to raise a mustache. Thus, it also becomes possible to shorten the time required where still smoother shaving is realized (it is reduced that an outer blade is equivalent to skin directly) and which starts shaving by providing two or more skin pressing members in a razor device. The skin pressing members 31b and 31b can also be formed as a member of one of continuation from the body part 40a of the razor device shown in drawing 25 (a).
[0052]

On the other hand, drawing 33 is a top view (a) of the so-called both-way formula electric razor device of the one-sheet edge which comprised the outer blade (an inner blade is also one sheet) 41a of one sheet, and a cross section (b) of the head section. Also in this case, the skin pressing members 31 and 31 are formed in the method part of both sides of the outer blade 41a (flank in alignment with a longitudinal direction). In this case, as shown in drawing 33 (c), a (top view), and drawing 33 (d) and a (cross section), it is what width in the transverse direction (direction which crosses a longitudinal direction) of the outer blade 41a is made small for (it is specifically made smaller than the width of the skin pressing member 31), and it is possible to realize a smoother close shave.
[0053]

As shown, for example in drawing 34, the above skin pressing members 31 can make a fulcrum the axis of rotation 40b with which the body part 40a of the electric razor device was equipped, and can also make it pivotable. In this case, two or more skin pressing members provided in a razor device can strike, and a part can be made pivotable to all skin pressing members. An electromotive type can also be made to rotate rotation of a skin pressing member by actuators, such as a motor. The shape of the skin pressing member in an electric razor device can also adopt the thing of an approximately prismatic

form as it is cylindrical and also shown, for example in drawing 35 (a). In this case, it is preferred to form camfering or R to the angle of a square pillar. The axial section where the skin contact surface side of the member of a square pillar as shown in drawing 36 was made into curved surface shape can also consider it as the skin pressing member of a bell form, and it can also be considered as the skin pressing member of the gestalt which cut off a part of semicircular pillar as shown in drawing 37, or pillar. It is also possible to equip an electric razor device with the skin pressing member of the columnar member which has the sectional shape of an approximately sector as shown in drawing 38.

[0054]

As shown in drawing 39, the skin pressing member 31 can form the peripheral part (a part of portion which contacts the skin at least or all) by a porous body, and can impregnate the porous body with soap, a lotion, cream, oil, etc. In this case, when the skin pressing member 31 presses the skin, the above-mentioned soap etc. which were impregnated come to be rubbed in the skin, it is smoother and shaving gentle to skin can be realized. As for the portion formed by a porous body, it is preferred to have the intensity of the grade which does not check the press effect.

[0055]

Next, it is also possible to form the skin pressing member 62 in the electric razor device 60 as shown in drawing 14. The head sections 61, 61, and 61 which the electric razor device 60 equipped with three outer blades which accommodate the rotor plate in which razor blades (inner blade) were attached are formed in the body part 68 by the pattern of the approximately triangle, Each head section 61 is a respectively almost cylindrical gestalt, and the skin pressing member 62 is formed near the center of each head section 61. The skin pressing member 62 is the composition for which the tip which contacts the skin was provided with the curved surface shape height 67, as shown in drawing 17 (a), That height 67 is projected from the surface of the outer blade 64, on the other hand, the lower part of the height 67 is made into the bearing bar of shaft shape, and this bearing bar is installed in the body part 68 of the electric razor device 60. That is, the skin pressing member 62 passed along the central part of the rotor plate 100, and was provided with the gestalt which penetrates the outer blade 64, and, as a result, the height 67 has projected it from the outer blade 64.

[0056]

As shown in drawing 15 and drawing 16, the electric razor device 70 with the head sections 71 and 71 provided with two outer blades and the electric razor device 80 with the head section 81 provided with one outer blade are also received, It is possible to form the same skin pressing members 72 and 72 as what was shown in drawing 17, and the skin pressing member 82 near the center of each head sections 71 and 81.

[0057]

About the skin pressing member 62, as shown in drawing 17 (b), elastic mechanisms, such as a spring, can be established between the skin pressing member 62b and the body part 68. So that this may use a skin pressing member as the skin pressing member 62b with the major diameter (portion located in the skin side) 66a, and the narrow diameter portion (portion located in the body part 68 side) 66b, for example and it may be located in the surroundings of the narrow diameter portion 66b, That is, it is the composition of having formed the spring (elastic mechanism) 63 so that the narrow diameter portion side edge 62a of the major diameter 66a might be contacted. This elastic mechanism is energizing the skin pressing member 62b to the shaft orientations of the razor device 60 concerned, and even if such a skin pressing member 62b is preceded with the outer blade 64, contacts the skin and does not put thrust artificially, it can press the skin effectively according to an elastic mechanism, and can raise a mustache.

[0058]

On the other hand, drawing 17 (c) - drawing 17 (f) show the various modifications of the skin pressing member. Drawing 17 (c) is what has the skin pressing member 62c which made spherical the major diameter 66a of the side which contacts the skin, The spring 63 contacts the spherical narrow diameter portion 66b side edge part, the major diameters 66a are 62d of hemispherical skin pressing members, and, as for drawing 17 (d), the narrow diameter portion is inserted in by each in the medial axis of the spring 63. Drawing 17 (e) is the skin pressing member 62e which changed the inside of the skin pressing member 62 into hollow shape, and is made possible [elastic deformation] for the whole by the hollow. Drawing 17 (f) makes hollow shape the spherical portion of the skin pressing member 62c of drawing 17 (c). If these skin pressing member is constituted from resin etc. in which elastic deformation is possible, it can adopt any of the thing of hollow shape, and a pure-like thing.

[0059]

In a revolving electric razor device, as shown in drawing 32, it is also possible to form the skin pressing member 89 in the outer periphery part of the head section 81 besides skin pressing member 82 provided in the center side of the head section (it comprises an outer blade and an inner blade) 81. Drawing 32 is the top view (a) and cross section (b) of that electric razor device, even if it performs shaving from which hoop direction in this case, the skin is pressed by the two skin pressing members 82 and 89, and the mustache which stood up by the head section 81 located in that middle is shaved.

[0060]

Next, drawing 19 is a modification of the electric razor device which has razor blades of a both-way formula. As this is shown in the figure (a), the razor blades (inner blade) 90 were formed in the end surface of the body part (handle portion) 99 in the shape of the straight side, and the axis-like crevice is formed succeeding the longitudinal direction. On the other hand, the razor blades 90 and outer blade 91 in which elastic deformation is almost possible in the shape of isomorphism are attached to the body part 99 removable so that it may be in the state where it covered from the upper part of the razor blades 90 as shown in the figure (d). As shown in the figure (c), to the head section 92 inserted in the body part 99 from the upper part of the outer blade 91. It has the above-mentioned skin pressing member 31 and the skin pressing member 93 of the shape of same approximate circle pillar, and where the skin pressing member 93 is accommodated in the crevice of the shape of an axis provided in the razor blades 90 (the figure (e)), it is used for shaving etc.

[0061]

As shown in drawing 20, it is also possible to attach the skin pressing member 93 to the outer blade 91. In this case, the heights 93a can be formed in the axial both ends of the skin pressing member 93, and, on the other hand, the head section 92 can be provided with the electric razor device of composition of having been shown in drawing 19 (e) by forming the crevice 92a into which those heights 93a fit. Though it is an one-sheet edge, such an electric razor device of composition can be considered as the composition of the two-sheet edge through the skin pressing member 93, and can demonstrate the same effect as a actual two-sheet edge with simple composition. The number of the outer blades 91 may not be one, or they may be constituted in two or more sheets, and can perform various modification of hollow shape etc. to the skin pressing member 93 like the example of above-mentioned drawing 13.

[0062]

As further modification, in drawing 1, the tool post 2 may be attached removable to the handle portion 3, or it may attach so that the tool post 2 may become rotatable at an

angle of predetermined to the handle portion 3. The number of sheets of razor blades can also be made into two or more sheets, such as a two-sheet edge and a three-sheet edge, and can also constitute the roll member 5 according to the construction material in which elastic deformation is possible. The razor device shown in this invention cannot be restricted to shaving, can also be used as useless ****** and downy hair **** and hair ****, and can also form the skin pressing member concerning this invention in hair clipper etc.
[0063]

Construction material (for example, natural construction material.) with construction material of the above-mentioned skin pressing member gentle (a stimulus -- few) to skin Or elasticity construction material, such as silicon, etc. the quality of an electromagnetic wave shielding material, the quality of antibacterial materials (for example, magnetic materials, such as a ferrite etc.) (for example, antimicrobial activity ingredients, such as a titania etc.), radioactive construction material (for example, quality of a negative ion generating material (mineral), such as tourmaline, etc.), etc. can be included at least, and can be constituted.
[0064]

On the other hand, the shaving means for shaving a mustache can be formed in the above-mentioned skin pressing member. Drawing 44 is the one example and the abbreviated semicircle tubed skin pressing member 31 which comprises metal (resin may be sufficient) etc. is formed between the two outer blades 41 and 41 which comprise a mesh cutter as shown in the figure (a). The figure (b) is a top view of the skin pressing member 31, the figure (c) is a perspective view of the skin pressing member 31, and the mustached induction 310 reticulated to a different position and the position which does not contact the skin in detail in the portion (portion used as the top of a skin pressing member) 311 which presses the skin of the skin pressing member 31 is formed. It is possible for this mustached induction 310 to be constituted as what is called a mesh cutter, and for the inner blade 46 of a both-way formula to be formed in the inside of that skin pressing member 31, and to shave a mustache between that inner blade 46 and mustached induction 310. As shown in drawing 45, in the skin pressing member 313, the slit shape mustached induction 314 can be formed for every predetermined interval or irregular interval, and it can also have composition which shaves a mustache between the above-mentioned inner blade 46 and the mustached induction 314.
[0065]

A shaving means can be formed also in the skin pressing member provided in the revolving electric razor device as shown in drawing 47. In this case, it is possible to form a shaving means also to which member between the two skin pressing members 82 and 89 provided, for example in the inside and the outside of the outer blade 81, In this example, the slit shape mustached induction 800 is formed in the hoop direction for every predetermined interval, for example in the outer periphery part (portion which does not contact skin) to the inside (center side) skin pressing member 82. The skin pressing member 82 is formed in hollow shape, the revolving inner blade 802 is formed in the hollow interior, and it is supposed that it is possible to shave a mustache between the inner blade 802 and mustached induction 800. Mustached induction 800 in this case can also be considered as mesh cutter shape, and can form the above-mentioned shaving means also in other electric razor devices (devices, such as a three-sheet edge). It is possible to shorten substantially the time which shaving takes by the above-mentioned shaving means of a skin pressing member, without checking the press effect of the skin in any case.
[0066]

Next, other modifications are shown about a skin pressing member. The skin

pressing member 315 shown in drawing 48 comprises the two cylindrical members 315a and 315b, and the crevice is formed between the two cylindrical members. By this crevice, a slide with skin improves further. The skin pressing member 320 shown in drawing 49 is the gestalt which cut the central part to the axial direction, and lacked one approximate circle columnar member in it, and the skin pressing part is formed in the both sides of the notch. Also in this case, a notch serves as a crevice, and a slide with skin improves further by this crevice.

[0067]

A sphere is a thing of the gestalt which led to the axial direction continuously, and it has become the skin pressing member 319 of drawing 50 with the composition that two or more unevenness (skin compacting means) was formed of the sphere. In this case, the heights formed of a sphere will suppress skin, in addition to good shaving, skin will be massaged, and a beauty effect will also be added.

[0068]

On the other hand, the skin pressing member 316 shown in drawing 51 is a thing of composition of that the two cylindrical members 316a and 316b were connected by the rubber-like member 317 in which elastic deformation is possible. in this example, the two cylindrical members 316a and 316b pass the stopper part 318 -- approach -- alienation is made free. While movement to the longitudinal direction (sliding direction) of the razor device 40 of each cylindrical members 316a and 316b is made impossible, specifically, A taper is given to the two lower part inner surface side of the cylindrical members 316a and 316b, Camfering of the inclination which touches the cone angle is formed in the upper part outside surface side of the stopper part 318, and the two cylindrical members 316a and 316b carry out approach alienation by sliding to a sliding direction by the final controlling element 318a in which the stopper part 318 was formed on the side of the electric razor device 40. In more detail, as shown in drawing 51 (b), where the stopper part 318 is slid most up, the two cylindrical members 316a and 316b are estranged, carrying out elastic deformation of the rubber-like member 317. In this case, the two cylindrical members 316a and 316b are energized by the approaching direction by the rubber-like member 317, and the slide in a lower part is prevented by the locking member which the stopper part 318 does not illustrate. On the other hand, in the state which shows in drawing 51 (c), the stopper part 318 is slid caudad and the two cylindrical members 316a and 316b approach by the elastic deformation (energization) of the rubber-like member 317. Thus, it becomes possible to change the quantity of the crevice formed between both the members 316a and 316b by making removable the two cylindrical members 316a and 316b.

[0069]

As shown in drawing 52, the skin pressing member 31 can also be constituted in one with the outer blade 41. In this case, the head section 300 consists of the outer blade 41 and the skin pressing member 31, and it becomes possible to manufacture the outer blade 41 and the skin pressing member 31 by one by press working of sheet metal etc. in a manufacturing process. The cover member 301 can also be made to detach and attach to the skin pressing member 31 for protection of a skin pressing member, and the improvement in fanciness, as shown in drawing 53. It is not limited and especially the construction material of this cover member 301 can adopt variously different things, such as height, width, and a color.

[0070]

On the other hand, in drawing 54, the skin pressing member 320 is formed to the head section 322 provided with the outer blade 41, enabling free attachment and detachment. Attachment and detachment are made possible by the projecting part 320a

being formed in the skin pressing member 320 along a cylindrical axial direction, and the slot 323 corresponding to the width of the projecting part 320a and height being formed in the head section 322, and inserting the projecting part 320a in the slot 323. It is possible to perform attachment and detachment with the same said of the skin pressing member 321 elliptical as shown in the figure (c).

[0071]

In drawing 55, the outer blade 41 is formed in the wrap cover member 430 by the head section, enabling free attachment and detachment. This is for stopping the function of the outer blade 41 arbitrarily, for example, as shown in drawing 56, when rubbing and shaving the hair of a raising portion, applies the outer blade 41 (inside B side of a figure) with which a portion to shave is not equipped with the cover member, and makes the skin pressing member 31 press to the skin simultaneously. Then, the razor device 40 can be moved to this outer blade 41 side (inside B side of a figure), it can rub, and the hair of a raising portion can be shaved. In this case, since the outer blade by the side of the inside A of a figure is equipped with the cover member 430, the hair by the side of A is prevented from being shaved off too much rather than a portion to shave.

[0072]

Next, the construction material of fluorescence can constitute the skin pressing member 31, and it can also raise fanciness in design. An electric bulb, a light emitting diode, etc. are also incorporable into the skin pressing member 31 concerned. It is possible to also make the light-emitting part which takes out beams of light (for example, far-infrared rays etc.) good for skin, the heating element which emits heat, etc. build into the inside of a skin pressing member, In this case, it becomes what can warm skin, can make a mustache soft, and can perform shaving more smoothly, and does not give coldness in the skin in winter, and a bactericidal effect is also further generated with a beam of light, a heating element, etc.

[0073]

The flat-surface parts overlap, two semicircular pillar-like members accomplish one circular columnar member, and, as for the skin pressing member 338 shown in drawing 58, the semicircular pillar-like member 338b located up at least comprises a transparent or translucent fluoroscopy nature member. And it is what can write in the decorative means 339 of a character, pictures, etc. at the flat-surface part of the semicircular pillar-like member 338a located caudad, and it is possible to raise fine sight nature by writing a message, a beautiful pattern, etc. in this.

[Brief Description of the Drawings]

[Drawing 1]

The whole perspective view showing one example of the razor device of this invention.

[Drawing 2]

The perspective view showing the tool post of a razor device, and the razor blades and the roll member which are attached to it.

[Drawing 3]

The explanatory view showing the physical relationship of razor blades and a roll member.

[Drawing 4]

The figure showing the example of attachment to the tool post of a roll member.

[Drawing 5]

The figure showing the modification of the attachment to the tool post of a roll member.

[Drawing 6]
The figure showing some of the modifications with the roll member of drawing 1.
[Drawing 7]
The figure showing the change of state of the mustache at the time of using a razor device for this example.
[Drawing 8]
The figure showing the example of a changed completely type of the razor device of this invention.
[Drawing 9]
The partial expanded sectional view showing the moving mechanism of the razor device of drawing 8.
[Drawing 10]
The figure showing the electric razor device of a both-way formula as one example of the razor device of this invention.
[Drawing 11]
The figure showing the example for which the skin pressing member of the razor device of drawing 10 was changed.
[Drawing 12]
The sectional view expanding and showing the composition of a skin pressing member about drawing 10 and the razor device of drawing 11, and the sectional view showing each modification of a skin pressing member.
[Drawing 13]
The perspective view showing each modification of a skin pressing member about drawing 10 and the razor device of drawing 11.
[Drawing 14]
The figure showing a revolving electric razor device as one example of the razor device of this invention.
[Drawing 15]
The figure showing the example of a changed completely type of the razor device of drawing 14.
[Drawing 16]
The figure showing the example of a changed completely type of the razor device of drawing 14.
[Drawing 17]
The sectional view showing the example of composition and the various modifications of a skin pressing member about drawing 14 thru/or the razor device of drawing 16.
[Drawing 18]
The figure explaining the change of state of a mustache when an electric razor device is used.
[Drawing 19]
The figure showing the example of a changed completely type of the electric razor device of drawing 10.
[Drawing 20]
The figure showing the example of a changed completely type of the members forming of the electric razor device of drawing 19.
[Drawing 21]
The sectional view showing the thing of working as an example of a changed completely type of a skin pressing member.
[Drawing 22]

The cross section which explains the sliding mechanism to be an example of a changed completely type of the skin pressing member of working.
[Drawing 23]
The figure showing the example of 1 formation of the knob for making a skin pressing member slide.
[Drawing 24]
The figure explaining the operation at the time of making a skin pressing member slide.
[Drawing 25]
The perspective view and front view showing the example of a changed completely type of the knob for making a skin pressing member slide.
[Drawing 26]
The perspective view showing typically the example which attaches the skin pressing member of drawing 25 to the body part of a razor device.
[Drawing 27]
The sectional view and front view showing the example of a changed completely type of the skin pressing member of working.
[Drawing 28]
The sectional view showing an example which established the elastic mechanism further about the skin pressing member of working.
[Drawing 29]
The top view and cross section of a both-way formula electric razor device of drawing 10.
[Drawing 30]
The top view and cross section showing an example of the both-way formula electric razor device provided with a skin pressing member two or more.
[Drawing 31]
The top view and cross section showing an example of the both-way formula electric razor device provided with a skin pressing member two or more.
[Drawing 32]
The top view and cross section showing an example of the revolving electric razor device provided with a skin pressing member two or more.
[Drawing 33]
The top view and cross section which equipping with a skin pressing member two or more and in which showing an example of the both-way formula electric razor device of an one-sheet edge.
[Drawing 34]
The explanatory view showing an example which attached the skin pressing member pivotable.
[Drawing 35]
The cross section of the head section at the time of attaching the whole perspective view showing the example of a changed completely type of a skin pressing member, and it to an electric razor device.
[Drawing 36]
The cross section of the head section at the time of attaching the whole perspective view showing the example of a changed completely type of a skin pressing member, and it to an electric razor device.
[Drawing 37]
The cross section of the head section at the time of attaching the whole perspective view showing the example of a changed completely type of a skin pressing

member, and it to an electric razor device.
[Drawing 38]
The cross section of the head section at the time of attaching the whole perspective view showing the example of a changed completely type of a skin pressing member, and it to an electric razor device.
[Drawing 39]
The cross section of the head section at the time of attaching the whole perspective view showing the example of a changed completely type of a skin pressing member, and it to an electric razor device.
[Drawing 40]
The enlarged section mimetic diagram near [which shows an example equipped with two skin pressing members to the razor device of drawing 1] a tool post.
[Drawing 41]
The enlarged section mimetic diagram near [which shows some modifications equipped with two or more skin pressing members to the razor device of drawing 1] a tool post.
[Drawing 42]
The enlarged section mimetic diagram near [which shows some examples equipped with the skin pressing member to the manual razor device which has a two sheet edge] a tool post.
[Drawing 43]
The enlarged section mimetic diagram for explaining the operation about the manual razor device provided with two or more skin pressing members.
[Drawing 44]
The important section cross section of the both-way formula electric razor device for explaining an example of the shaving means formed in the skin pressing member, a top view, and the perspective view showing the skin pressing member typically.
[Drawing 45]
The top view of the both-way formula electric razor device for explaining the example of a changed completely type of a shaving means provided in the skin pressing member, an important section cross section, and the perspective view showing the skin pressing member typically.
[Drawing 46]
The top view of the both-way formula electric razor device for explaining the modification of a skin pressing member, an important section cross section, and the perspective view showing the skin pressing member typically.
[Drawing 47]
The top view of the revolving electric razor device for explaining the modification of a shaving means provided in the skin pressing member, and a cross section.
[Drawing 48]
The perspective view of a head section showing typically the example of a changed completely type of a skin pressing member.
[Drawing 49]
The perspective view of a head section showing typically the example of a changed completely type of a skin pressing member.
[Drawing 50]
The perspective view of a head section showing typically the example of a changed completely type of a skin pressing member.
[Drawing 51]
The perspective view of a head section showing typically the example of a

changed completely type of a skin pressing member, and the figure explaining the mechanism.

[Drawing 52]

The perspective view of a head section showing typically an example which formed the skin pressing member in one with the outer blade.

[Drawing 53]

The perspective view of a head section showing typically an example which provides the cover member which can be detached and attached freely to a skin pressing member.

[Drawing 54]

The perspective view of a head section showing typically an example which provides a skin pressing member enabling free attachment and detachment.

[Drawing 55]

The perspective view and side view of a head section showing typically an example which provides the cover member which can be detached and attached freely to an outer blade.

[Drawing 56]

The explanatory view showing the example of 1 use of a razor device with the head section of the composition of drawing 55.

[Drawing 57]

The perspective view of a head section showing typically the example of a changed completely type of a skin pressing member.

[Drawing 58]

The perspective view of a head section showing typically the example of a changed completely type of a skin pressing member.

[Description of Notations]

1, 15, 40, 60, 70, and 80 Razor device
2 Tool post
2a Skin contact surface
2b Fitting part (skin pressing member fitting part)
3 Handle portion
4, 16, 46, and 90 Razor blades (inner blade)
5, 17, 31, 42, 62, 72, 82, and 93 Skin pressing member
6 Slot
8 Projecting part (skin pressing member fitting part)
18 Splice (skin pressing member fitting part)
63 Spring member (elastic mechanism)

JP2001276450A

Publication Title:

RAZOR DEVICE

Abstract:

Abstract of JP 2001276450

(A) Translate this text PROBLEM TO BE SOLVED: To provide a razor device capable of solving a problem of shaving leftovers or the like by simply erecting a bread without using both hands. SOLUTION: A handhold part 3 and a blade base 2 are fitted together into a T-shape to form the razor tool 1 of this razor device, and the opposite face to the assembled portion of the blade base 2 with the handhold part 3 is used as a skin contact face 2a. A razor blade 4 and a roll member 5 serving as a skin pressing member are fitted to the blade bas 2, the roll member 5 has a shaft-like nearly cylindrical outer shape, and its axis is made parallel with the blade line of the razor blade 4. The roll member 5 is fitted at a position precedent to the razor blade 4 in the shaving direction so as to have a portion located at least on the skin contact face 2a side than the extension line of the blade tip direction of the razor blade 4.

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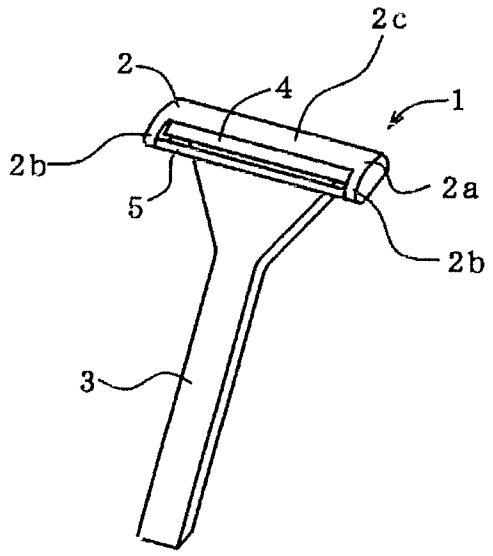
(54)【発明の名称】　剃刀装置

(57)【要約】
【課題】　両手を使わなくとも簡単に髭を起立させて、剃り残し等の問題を解決することができる剃刀装置を提供する。
【解決手段】　剃刀装置としての剃刀具１は、取手部３と刃台２とがＴ字状に取り付けられ、刃台２において、取手部３との組み付け部分と反対側の面が皮膚当接面２ａとされている。刃台２には、剃刀刃４と、皮膚押圧部材としてのロール部材５とが取り付けられ、ロール部材５は軸状の略円柱外形を有しており、その軸線が剃刀刃４の刃線と平行に設けられている。ロール部材５は、剃刀刃４よりも剃り方向に先行する位置に、剃刀刃４の刃先方向延長線上よりも少なくとも皮膚当接面２ａ側に位置する部分を有するように取り付けられている。



【特許請求の範囲】

【請求項１】　剃刀刃と、剃り方向においてその剃刀刃に先行する皮膚押圧部材とを有しており、
前記皮膚押圧部材は、皮膚を押圧することで、その押圧した皮膚に生えている髭を起立させることを特徴とする剃刀装置。

【請求項２】　前記皮膚押圧部材は、少なくとも皮膚と当接する部分が曲面とされている請求項１記載の剃刀装置。

【請求項３】　前記皮膚押圧部材は、弾性変形可能な材質により構成されている請求項１又は２に記載の剃刀装置。

【請求項４】　前記皮膚押圧部材は、中空状に構成され、その中空により弾性変形可能とされている請求項１ないし３のいずれかに記載の剃刀装置。

【請求項５】　当該剃刀装置は、手動剃刀装置であって、
前記剃刀刃が皮膚押圧部材取付部を有する刃台に取り付けられ、前記皮膚押圧部材が前記皮膚押圧部材取付部に取り付けられた構成を有している請求項１ないし４のいずれかに記載の剃刀装置。

【請求項６】　前記皮膚押圧部材は、前記剃刀刃の刃先よりも皮膚当接側に突出する部分を少なくとも有する請求項５記載の剃刀装置。

【請求項７】　前記皮膚押圧部材は軸線状の略円柱外形を有し、その軸線が剃刀刃の刃線方向とほぼ平行に設置されている請求項５又は６に記載の剃刀装置。

【請求項８】　前記皮膚押圧部材は、回転軸を支点として回転可能な状態で前記皮膚押圧部材取付部に取り付けられている請求項５ないし７のいずれかに記載の剃刀装置。

【請求項９】　前記皮膚押圧部材取付部は前記刃台の両端部に位置した２つの突状部であって、前記皮膚押圧部材は、その２つの突状部によって支持されている請求項５ないし８のいずれかに記載の剃刀装置。

【請求項１０】　前記皮膚押圧部材は、前記突状部を支点として回転可能とされている請求項９記載の剃刀装置。

【請求項１１】　前記皮膚押圧部材取付部は前記刃台に対して皮膚当接側へ回動可能に取り付けられており、その皮膚押圧部材取付部の回動に伴って、前記皮膚押圧部材の皮膚に対する押圧力が変化する請求項５ないし１０のいずれかに記載の剃刀装置。

【請求項１２】　前記皮膚押圧部材取付部は前記刃台に対して皮膚当接側へ回動可能に取り付けられており、その皮膚押圧部材取付部の回動に伴って、前記皮膚押圧部材の皮膚当接側に突出する部分の突出高さが変化する請求項５ないし１０のいずれかに記載の剃刀装置。

【請求項１３】　当該剃刀装置は、電動剃刀装置であって、
前記剃刀刃が収容され外刃を備えるヘッド部と、取手部分としての本体部とを有しており、前記皮膚押圧部材が剃り方向において前記剃刀刃に先行する位置に設けられている請求項１ないし４のいずれかに記載の剃刀装置。

【請求項１４】　前記電動剃刀装置は、往復式の剃刀刃として内刃を有する電動剃刀装置であって、その往復式の内刃が２部設けられ、それぞれ異なる外刃内に収容されるとともに、前記皮膚押圧部材がその２つの外刃の間に位置するように設けられている請求項１３記載の剃刀装置。

【請求項１５】　前記電動剃刀装置は、往復式の剃刀刃として内刃を有する電動剃刀装置であって、その往復式の内刃が長手方向に凹部を有して、該内刃とほぼ同形状の外刃内に収容されるとともに、
前記本体部に上方から嵌め込むヘッド部には、前記皮膚押圧部材が備えられ、前記凹部は、その皮膚押圧部材を収容可能とされている請求項１３記載の剃刀装置。

【請求項１６】　前記皮膚押圧部材は、前記外刃に対し可動状態で取り付けられている請求項１４又は１５に記載の剃刀装置。

【請求項１７】　前記皮膚押圧部材は、前記本体部に対し可動状態で取り付けられている請求項１４又は１５に記載の剃刀装置。

【請求項１８】　前記皮膚押圧部材と前記外刃又は前記本体部との間には弾性機構が設けられ、その弾性機構により皮膚押圧部材が当該剃刀装置の軸方向に可動自在とされている請求項１６又は１７に記載の剃刀装置。

【請求項１９】　前記皮膚押圧部材は、長手状に構成されており、その長手方向に延びる回転軸を支点として回転可能とされている請求項１３ないし１８のいずれかに記載の剃刀装置。

【請求項２０】　前記電動剃刀装置は、前記剃刀刃として内刃が回転板に取り付けられ、その内刃及び回転板が収容され外刃を備えたヘッド部を有する回転式の電動剃刀装置であって、前記皮膚押圧部材が前記外刃の周縁部に可動状態で取り付けられている請求項１３記載の剃刀装置。

【請求項２１】　前記電動剃刀装置は、前記剃刀刃として内刃が回転板に取り付けられ、その内刃及び回転板が収容され外刃を備えたヘッド部を有する回転式の電動剃刀装置であって、前記皮膚押圧部材は前記外刃に可動状態で取り付けられている請求項１３記載の剃刀装置。

【請求項２２】　前記電動剃刀装置は、前記剃刀刃として内刃が回転板に取り付けられ、その内刃及び回転板が収容され外刃を備えたヘッド部を有する回転式の電動剃刀装置であって、前記皮膚押圧部材は前記本体部に可動状態で取り付けられている請求項１３記載の剃刀装置。

【請求項２３】　前記電動剃刀装置は、前記剃刀刃として内刃が複数の回転板に取り付けられ、各内刃及び回転板が収容され複数の外刃を備えたヘッド部を有する回転

式の電動剃刀装置であって、前記皮膚押圧部材は前記本体部に可動状態で取り付けられている請求項１３記載の剃刀装置。

【請求項２４】　前記皮膚押圧部材は、前記回転板の中心部を通り、前記ヘッド部から突出する形態で設けられている請求項２２又は２３に記載の剃刀装置。

【請求項２５】　前記皮膚押圧部材と前記本体部との間には弾性機構が設けられ、その弾性機構により皮膚押圧部材が当該剃刀装置の軸方向に可動自在とされている請求項２１ないし２４のいずれかに記載の剃刀装置。

【請求項２６】　前記皮膚押圧部材は、その皮膚押圧部材の突出量を複数段階又は無段階に変更するために、前記本体部にスライド機構を介してスライド可能に取り付けられ、かつその皮膚押圧部材のスライド後の位置を固定するロック手段が設けられている請求項１３ないし２５のいずれかに記載の剃刀装置。

【請求項２７】　前記皮膚押圧部材を軸方向に支持する支持部材が、その皮膚押圧部材に取り付けられており、前記スライド機構は、前記本体部に設けられた本体側凹凸部と、前記支持部材に設けられた支持部材側凹凸部とが嵌合位置を変化することで前記支持部材をスライド自在にし、前記皮膚押圧部材の突出量が複数段階又は無段階に変更される請求項２６記載の剃刀装置。

【請求項２８】　前記皮膚押圧部材は、前記外刃を備えた前記ヘッド部に対して着脱自在に設けられている請求項１３ないし２７のいずれかに記載の剃刀装置。

【請求項２９】　前記皮膚押圧部材は、前記外刃と一体的に構成されている請求項１３ないし２７のいずれかに記載の剃刀装置。

【請求項３０】　前記皮膚押圧部材には、髭を剃るための髭剃り手段が設けられている請求項１ないし２９のいずれかに記載の剃刀装置。

【請求項３１】　前記皮膚押圧部材には、当該皮膚押圧部材の皮膚を押圧する部分とは異なる位置に網状又はスリット状の髭導入部が設けられ、さらに該皮膚押圧部材の内部には内刃が設けられており、前記髭剃り手段は、前記髭導入部に導入された髭を前記内刃により剃るものである請求項３０記載の剃刀装置。

【請求項３２】　前記皮膚押圧部材には、皮膚に対する押圧力を複数箇所で他の部分より大きくするための凹凸が設けられている請求項１ないし３１のいずれかに記載の剃刀装置。

【請求項３３】　前記皮膚押圧部材には、皮膚との摩擦力を軽減する微小な凹凸が設けられている請求項１ないし３２のいずれかに記載の剃刀装置。

【請求項３４】　当該剃刀装置には、前記皮膚押圧部材に加えて、剃り方向においてその剃刀刃に後行する第２の皮膚押圧部材が設けられている請求項１ないし３３のいずれかに記載の剃刀装置。

【請求項３５】　前記皮膚押圧部材は２つの部材から構成されており、その２つの部材が接離自在にされている請求項１ないし３４のいずれかに記載の剃刀装置。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は 剃刀装置に関する

【０００２】

【従来の技術】従来の電動剃刀装置あるいは手動剃刀装置等は、本体部あるいは取手部等を片手で持ち、刃部を髭剃り位置の皮膚に押し当てて剃る。そのとき、もう一方の手で刃部が当たっている近傍の皮膚を引張って、髭剃り位置の髭を皮膚に対して起立させながら剃るのが通常であった。

【０００３】上記のような場合、髭剃り時に両手を使う必要があり面倒で、しかも髭を起立させることが難しく剃り残し等の問題を生じる場合がある。そこで、例えば剃刀装置に皮膚を引張るための手段を設けて、髭を立たせるよう行っている。

【０００４】

【発明が解決しようとする課題】しかしながら、このような引張手段により皮膚を引張っても、効果的に髭を立たせることができず、剃り残し等の問題を生じる場合がある。本発明の課題は、両手を使わなくとも簡単に、しかも効果的に髭を起立させて、剃り残し等の問題を解決することができる剃刀装置を提供することにある。

【０００５】

【課題を解決するための手段及び作用・効果】上記課題を解決するために、本発明の剃刀装置は、剃刀刃と、剃り方向においてその剃刀刃に先行する皮膚押圧部材とを有しており、皮膚押圧部材は、皮膚を押圧することで、その押圧した皮膚に生えている髭を起立させることを特徴とする。このような構成の剃刀装置を顔に押し当てて髭を剃る場合に、剃刀刃に先行して皮膚押圧部材が髭剃り位置の皮膚を押し付けて緊張させると、従来のような引張手段によるものとは異なり、押し付けられた髭剃り位置の周縁の髭を皮膚に対して効果的に起立させ、逆立てながら剃ることができるようになる。よって、髭を容易に根元付近から剃ることができ、剃り残し等の問題を解消することができる。

【０００６】上記皮膚押圧部材は、少なくとも皮膚と当接する部分を曲面状にするのがよい。このようにすれば、皮膚に対して滑らかに押圧することが可能となるとともに、押圧時に肌触りが良く、皮膚に対しても刺激の少ないものとなり、肌荒れの心配もなくなる。さらに、皮膚を曲面が押圧することにより、例えば皮膚から皮脂が出て滑らかな髭剃りが可能となり、肌荒れ等の防止にもつながる。また、皮膚押圧部材を弾性変形可能な材質により構成すれば、皮膚に対する押圧力を適度に変化させることができ、例えば、皮膚押圧部材を中空状に構成すれば、容易に弾性変形機構を付与することができる。

【０００７】上記のような構成の皮膚押圧部材により、

髭剃り位置を押圧することで、皮膚押圧部材を曲面とした場合、例えば角状を有するものに比べ、クリーム等のプレシェーブローション等を剃刀刃よりも先に拭い取ってしまう問題等が生じにくくなる。また、1回の髭剃りで効果的に髭を根元から剃ることができるため、同じ個所を何回も剃る必要がなくなり、癖髭等に対しても短時間で髭剃りを行うことができる。さらに、産毛等も確実に剃ることが可能で、剃り後の肌が艶やかになる。

【0008】上記剃刀装置の具体的態様としては、剃刀刃が皮膚押圧部材取付部を有する刃台に取り付けられ、皮膚押圧部材がその皮膚押圧部材取付部に取り付けられた構成を有する手動剃刀装置を例示できる。この場合、例えば皮膚押圧部材を、剃刀刃の刃先よりも皮膚当接側に突出する部分を少なくとも有するものとして構成するのがよい。このようにすれば、皮膚側に突出する皮膚押圧部材が、効果的に皮膚を押圧して、髭剃り位置の髭を皮膚に対して起立させることができるようになる。

【0009】また、上記皮膚押圧部材は、その表面上において皮膚と当接しない溝部を少なくとも有するのがよい。皮膚押圧部材は、剃刀刃よりも先行して皮膚を押し当てるため、クリーム等のプレシェーブローション等を皮膚に塗布した場合、そのプレシェーブローション等を先に拭い取ってしまう問題が生じる場合があるが、溝部を設けた上記構成においては、溝部がプレシェーブローション等を拭い取ることを抑制する。これにより、滑らかな剃刀を行うことができ、かつ剃刀負け等の皮膚（肌）に対するトラブルも防止できるようになる。

【0010】上記皮膚押圧部材の外形を軸線状の略円柱にし、その軸線を剃刀刃の刃線方向とほぼ平行に設置するのがよい。この場合、剃刀刃の刃線方向とほぼ平行に設置された略円柱の皮膚押圧部材の曲面が、滑らかに皮膚上を滑りつつ皮膚を押さえつけるので、効率良く毛剃りを行うことができる。なお、皮膚押圧部材は、例えば回転軸を支点として回転可能に取り付ければ、さらに滑らかな毛剃りを行うことができる。

【0011】このような手動剃刀装置において、皮膚押圧部材取付部に皮膚押圧部材が取り付けられるが、その具体的態様としては、皮膚押圧部材取付部が刃台の両端部に取り付けられた2つの突状部であって、皮膚押圧部材が、その2つの突状部によって支持されるものとすることができる。このような構成によると、本発明に係る手動剃刀装置を簡便化することが可能で、部品点数も省略できるようになる。また、この場合、突状部を支点として皮膚押圧部材を回転可能にすれば、簡便な構成で滑らかな剃刀行為を行うことが可能となる。

【0012】一方、皮膚押圧部材取付部を刃台に対して回動可能に取り付ければ、その皮膚押圧部材取付部の回動に従って、皮膚押圧部材の皮膚に対する押圧力を変化させることができる。また、この場合、皮膚押圧部材取付部の回動により、例えば皮膚押圧部材の皮膚側に突出する部分の突出高さを変化させることもできる。このような構成により、皮膚に対する押圧力、さらには髭の起立具合を様々に変化させることが可能となる。

【0013】また、上記剃刀装置の別の具体的態様として、剃刀刃が収容されるヘッド部と、取手部分としての本体部とを有し、皮膚押圧部材が剃り方向において剃刀刃に先行する位置に設けられている電動剃刀装置を例示することができる。例えば、往復式の電動剃刀装置の場合、往復式の剃刀刃（内刃）を2部設け、それぞれを異なる外刃（ヘッド部に形成される）内に収容し、皮膚押圧部材が2つの外刃の間に位置するように、その皮膚押圧部材を外刃又は本体部に可動状態で取り付けることができる。

【0014】また、往復式の剃刀刃を有する電動剃刀装置として、その剃刀刃（内刃）が凹部を有して、該内刃とほぼ同形状の外刃内に収容されるとともに、本体部に上方から嵌め込むヘッド部には、皮膚押圧部材が備えられ、凹部には、その皮膚押圧部材を収容可能とすることができる。なお、皮膚押圧部材を外刃に取り付ける場合は、例えば2つの外刃間に把持された状態で取り付けるのがよい。このように往復式の剃刀刃を有する電動剃刀装置においても、皮膚押圧部材を設けることで効果的に深剃りを実現できる。

【0015】このような電動剃刀装置においては、皮膚押圧部材と外刃又は本体部との間に例えばばね部材等からなる弾性機構を設け、その弾性機構により皮膚押圧部材を当該剃刀装置の軸方向に可動自在にすることができる。この場合、皮膚に対する押圧力を自在に変化することが可能となる。なお、弾性機構の働きにより、剃刀装置を無理やり肌に押し込まなくても皮膚を効果的に押圧することができ、髭を起立できる。なお、剃刀装置の軸方向とは、当該剃刀装置の長手方向を指す。

【0016】また、上記往復式の電動剃刀装置においては、皮膚押圧部材を例えば長手状に構成し、その長手方向に延びる回転軸を支点として回転可能な状態で該皮膚押圧部材を取り付けることができる。この場合、皮膚押圧部材が回転しながら皮膚を押圧するため、当該電動剃刀装置の剃り方向への滑りが良くなり、より滑らかな髭剃りが可能となる。なお、回転軸は例えば電動剃刀装置の本体部（筐体部）から突出するピンとして構成することが可能で、そのピンに対して皮膚押圧部材を着脱自在に設けることができる。

【0017】また、例えば剃刀刃（内刃）が回転板に取り付けられ、その剃刀刃及び回転板が収容される外刃を備えたヘッド部を有する回転式の電動剃刀装置の場合、皮膚押圧部材はその外刃の周縁部に可動状態で設けることができる。この場合、どの方向から髭を剃ろうとも、剃刀刃に先行して皮膚押圧部材が皮膚を押圧するため、自由な方向で効果的に髭を起立させることができる。

【0018】また、このような回転式の剃刀装置の場合

も、皮膚押圧部材を前記外刃又は取手部としての本体部に取り付けることができ、さらに、前記回転板の中心部を通り、外刃から貫通して突出する形態で設けることができる。この場合も、どの方向から髭を剃ろうとも、剃刀刃（内刃）に先行して皮膚押圧部材が皮膚を押圧する。なお、外刃が複数設けられた回転式の電動剃刀装置についても、上記のような構成を導入することができる。

【００１９】また、往復式の電動剃刀装置と同様に、皮膚押圧部材と本体部との間に例えばばね部材等からなる弾性機構を設ければ、その弾性機構により皮膚押圧部材を当該剃刀装置の軸方向に可動自在にすることができ、皮膚に対する押圧力を自在に変化することが可能である。

【００２０】なお、上記往復式及び回転式の電動剃刀装置において、皮膚押圧部材を、その皮膚押圧部材の突出量を複数段階又は無段階に変更するために、本体部にスライド機構を介してスライド可能に取り付け、かつその皮膚押圧部材のスライド後の位置を固定するロック手段を設けることができる。この場合、種々の目的、用途に応じて、皮膚押圧部材の外刃からの突出量を段階的に調整することが可能となる。具体的には、皮膚押圧部材を軸方向に支持する支持部材が、その皮膚押圧部材に取り付け、本体部に設けられた本体側凹凸部と、支持部材に設けられた支持部材側凹凸部とが嵌合位置を変化することで支持部材をスライド自在にし、皮膚押圧部材の突出量が複数段階又は無段階に変更するものとすることができる。

【００２１】当該剃刀装置には、剃り方向において剃刀刃に先行する皮膚押圧部材に加えて、その剃刀刃に後行する第２の皮膚押圧部材を設けることができる。この場合、剃刀刃は、その剃刀刃に先行する皮膚押圧部材と、剃刀刃に後行する第２の皮膚押圧部材とに挟まれる構成となり、その挟まれた部分（皮膚）の押圧効果が一層高まり、両皮膚押圧部材の間においてさらに深剃りが可能となる。なお、このように２つの皮膚押圧部材から構成される場合、その２つの皮膚押圧部材を接離自在にすることができる。この場合、２つの皮膚押圧部材に挟まれて押圧される部分の距離を任意に設定することができ、使用者に合わせてその距離を選択することが可能となる。なお、この２つの皮膚押圧部材の距離を変化させることにより皮膚の押圧量を微妙に変化させることが可能である。

【００２２】なお、皮膚押圧部材は外刃を備えたヘッド部に対して着脱自在に設けることができる。この場合、後述する複数種類の皮膚押圧部材の中から個人の好みに応じて取換えたり、個人の肌、髭の状態に対応して別途選択したりすることが可能となる。また、皮膚押圧部材を外刃と一体的に構成することもできる。この場合、ヘッド部は外刃と皮膚押圧部材とからなり、製造工程において外刃と皮膚押圧部材とを例えばプレス加工等により一体で製造することが可能で、製造コストの削減が可能となる。

【００２３】また、上記皮膚押圧部材には、髭を剃るための髭剃り手段を設けることができる。この場合、皮膚押圧部材に髭を起立させる等の効果に加えて髭を剃る効果も付与されるため、さらに髭剃り時間が短縮される。その具体的態様としては、当該皮膚押圧部材の皮膚を押圧する部分とは異なる位置、詳しくは皮膚と当接しない位置に網状又はスリット状の髭導入部を設け、さらに該皮膚押圧部材の内部に内刃を設け、髭導入部に導入された髭を内刃により剃るものとすることができる。この場合、皮膚の押圧効果を阻害することもなく、また、網状又はスリット状の髭導入部が肌に直接当接することもないため、髭導入部が肌を傷める等の発生を防止でき、皮膚押圧部材が直接肌に当接して滑らかな髭剃りを実現することができ、さらに上記髭剃り手段を設けたことにより、髭剃りにかかる時間のさらなる短縮が可能となる。

【００２４】また、皮膚押圧部材には、皮膚に対する押圧力を複数箇所で他の部分より大きくするための凹凸を複数設け、その凸部が肌をマッサージするものとすることができる。この場合、髭剃り時において皮膚押圧部材が肌を押圧して髭を起立させ剃りやすくするとともに、上記凹凸により肌がマッサージされて美容効果も付加されることとなる。なお、皮膚押圧部材には、皮膚との摩擦力を軽減する微小な凹凸を形成することもでき、これにより皮膚押圧部材は、皮膚に対して一層滑らかに当接することとなる。

【００２５】

【発明の実施の形態】以下、本発明の実施の形態を、図面に示す実施例を参照して説明する。図１は本発明の剃刀装置の一実施例として、剃刀具１を示す全体斜視図である。剃刀具１は、取手部３と刃台２とが、それらの軸線が交差するようにＴ字状に取り付けられたいわゆるＴ字型剃刀であって、刃台２において、取手部３との組み付け部分と反対側の面が皮膚当接面２ａとされている。刃台２には、剃刀刃４と、皮膚押圧部材としてのロール部材５とが取り付けられ、ロール部材５は、刃台本体部２ｃの両端部から同方向に突出した取付部（皮膚押圧部材取付部）２ｂ，２ｂの間に把持された形態で設けられている。刃台２、取手部３、ロール部材５は、例えば樹脂材質、特に抗菌性の樹脂材質等の皮膚に対して刺激の少ない材質から構成されている。なお、この図１の実施例においては、１枚刃の剃刀具を例示したが、２枚刃、３枚刃等の複数の刃によって構成されたものを用いることも可能である。

【００２６】剃刀刃４とロール部材５の位置関係を、図２及び図３を参照しつつ説明する。ロール部材５は軸線状の略円柱外形を有しており、その軸線が剃刀刃４の刃線と平行にされている。また、ロール部材５は、図３に

示すように剃刀刃４よりも剃り方向に先行する位置に、剃刀刃４の刃先線A1上よりも皮膚当接面２ａ側に位置する部分が少なくともあるように取り付けられている。この場合、皮膚当接面２ａを皮膚に当接させて、皮膚を僅かに押圧した場合、まずロール部材５が皮膚を押圧し、さらに僅かに押圧した場合に剃刀刃４が皮膚に当接する。なお、ロール部材５が効果的に皮膚を押圧するために、ロール部材５は取付部２ｂ，２ｂの刃台本体部２ｃとは異なる側の端部に位置し、皮膚当接面２ａと共通の面を少なくとも有するように設けることが好ましい。また、ロール部材５は略円柱外形に限られず、少なくとも皮膚と当接する部分が曲面とされていればよく、中空状、むく状のものを採用することができる。

【００２７】ロール部材５は、刃台２に対して一体に成形されているが、図４に示すように、各取付部２ｂにそれぞれ突状部８，８を互いに向かい合う状態で設け、その突状部８に対してロール部材５を着脱可能に設けることもできる。この場合、例えば、軸線状のロール部材５の両端部に孔部７を設けて、その孔部７に各突状部８を嵌め込むようにすればよく、実際にこの剃刀具１を使用する際には、突状部８を支点にしてロール部材５を回転させることが可能である。なお、刃台２のロール部材５を把持する取付部２ｂ（突状部８が形成されている部分）は、例えば弾性変形可能な樹脂等から構成し、ロール部材５を突状部８に嵌め込む場合は、各取付部２ｂ，２ｂを拡長方向に弾性変形させて嵌め込み、把持状態においては、その弾性復帰力によりロール部材５を把持することができる。

【００２８】また、図５に示すような支持部１１，１１を用いて皮膚押圧部材５を刃台２に取り付けることも可能である。これは、各取付部２ｂから連続で平坦な面を有する支持部１１に半円柱状の皮膚押圧部材５が載置された形態とされている。その支持部１１を例えば弾性変形可能に構成すれば、支持部１１はその弾性変形により皮膚当接面２ａ方向に回動可能となり、それに伴って皮膚押圧部材５も皮膚当接面２ａ方向に回動可能となる。なお、各支持部１１，１１をそれぞれ異なる方向へ回動自在にし、皮膚押圧部材５も弾性変形可能な材質から構成すれば、顔の表面の凹凸にあわせて滑らかに皮膚押圧部材５が皮膚と当接でき、効果的な皮膚の押圧が可能となる。

【００２９】上記ロール部材（皮膚押圧部材）５は、図６（ａ）に示すように円柱形態以外にも、図６（ｂ）に示すように、円柱側面において径方向に切り取られた溝部６を１ないし複数設けることができる。この場合、ロール部材５を皮膚表面に当接して滑らせた場合に、クリーム等のプレシェーブローション等をロール部材５が剃刀刃４よりも先に拭い取ってしまうことを溝部６において防止することができる。また、図６（ｃ）に示すような、球体５１が当該ロール部材５の軸線方向に連続で繋がった形態のものを用いてもよく、図６（ｄ）に示すような、溝部６が螺旋状に連続して繋がった形態のものを用いてもよい。この場合、螺旋状の溝が髭を順次起立させていく効果も併わせもつ。なお、これら皮膚押圧部材の各例については円柱形態にとらわれることなく、半円柱状等の少なくとも皮膚と当接する面が曲面となっているものを、図６（ｂ）～図６（ｄ）の形態に対して採用することが可能である。また、ロール部材５を中空状にして、その中空により、弾性を発揮することもできる。

【００３０】このような剃刀具（剃刀装置）１を髭剃りに用いると、図７に示すような効果が得られる。図７（ａ）は、皮膚１０に対して髭９が所定の方向に寝ている通常時の髭の状態である。ここに、本発明の剃刀具１を用いると、図７（ｂ）に示すように、ロール部材５が皮膚１０を押圧するとともに、髭９を皮膚１０に対して起立した状態にする。さらに、図７（ｃ）に示すように剃刀具１を剃り方向に滑らせると、皮膚１０が押圧されたまま、すなわち髭９が起立したままの状態で剃刀刃４により髭を剃ることができ、深剃りが可能となり剃り残しも低減できるようになる。

【００３１】また、図４０に示すように、剃刀刃４の剃り方向に後行する位置に第２の皮膚押圧部材５ａを設けることもできる。第２の皮膚押圧部材５ａは、上述した皮膚押圧部材と同様の構成とすることができる。この場合、図４３に示すように、剃刀刃４は、剃り方向に先行する皮膚押圧部材（第１の皮膚押圧部材）５と、剃り方向に後行する第２の皮膚押圧部材５ａとに剃り方向において挟まれる構成となり、その挟まれた部分（皮膚１０）の押圧効果が一層高まり、両皮膚押圧部材５，５ａの間に生える髭を一層効果的に起立させ、さらなる深剃りが可能となる。また、この場合、第２の皮膚押圧部材５ａにより剃刀刃４が肌に対して鋭角に当たることが防止ないし抑制される。すなわち、第１及び第２の皮膚押圧部材が剃刀刃よりも皮膚に当接する側に形成されており、それら第１及び第２の皮膚押圧部材が共に皮膚に当接する場合の剃刀刃の角度をもって、剃刀刃の皮膚に当たる角度を規定することが可能である。

【００３２】なお、第２の皮膚押圧部材は、図４１（ａ）に示すように、剃刀刃４の刃先に近づけるほど皮膚への押圧が効果的となり、また皮膚に対する滑りも良くなる。なお、この場合、皮膚押圧部材は半円柱状の部材として構成されている。また、図４１（ｂ）に示すように、剃刀刃４の皮膚当接面２ａとは反対側にも皮膚押圧部材５ｃを設けることも可能である。

【００３３】一方、図４２は２枚の剃刀刃４，４ａから構成された、いわゆる２枚刃式の剃刀具における皮膚押圧部材の設置例を模式的に示すものである。図４２（ａ）においては、第１剃刀刃４の剃り方向に先行する位置に第１の皮膚押圧部材５が設けられ、後行する位置に第２の皮膚押圧部材５ａが設けられている。さらに、

この第2の皮膚押圧部材5aに後行して第2剃刀刃4aが位置し、その第2剃刀刃に後行する位置に第3の皮膚押圧部材5cが設けられている。また、図42(b)に示すように、第3の皮膚押圧部材5cを省略することも可能で、図42(c)に示すように、第1の皮膚押圧部材5を省略し、第2、第3の皮膚押圧部材5e，5dを半円柱状の部材として構成することも可能である。また、図42(d)、(e)に示すように、第1剃刀刃4及び/又は第2剃刀刃4aの皮膚当接面2aとは反対側にも皮膚押圧部材5f，5gを設けることができ、さらに、図42(f)に示すように、第1剃刀刃4と第2剃刀刃4aとの間に1の皮膚押圧部材5aを備えた構成においても、十分な皮膚押圧効果を発揮することが可能である。

【0034】なお、図1の剃刀具1はT字状の剃刀具であったが、図8に示すような西洋式のナイフ型剃刀具15に対して、剃り方向において剃刀刃に先行する皮膚押圧部材を取り付けることもできる。これは、剃刀具15の本体部(刃台)15aに剃刀刃16が取り付けられたものであり、剃刀刃16の刃線に対して平行に取手部15bが設けられている。そして刃台15aには、剃刀刃16の両端に位置する継ぎ手(皮膚押圧部材取付部)18，18が取り付けられ、継ぎ手18はコ字状に形成され、その端部にはロール部材17が取り付けられている。この場合も、図9に示すように、軸19を支点にして継ぎ手18が剃刀刃の厚さ方向に回動可能とされており、その回動によりロール部材17も同様に回動する。

【0035】また、図10に示すような電動剃刀装置40に、皮膚押圧部材を設けることもできる。この電動剃刀装置40は、往復式の剃刀刃(内刃)が2部設けられ、凸状に湾曲したそれぞれ異なる外刃41，41内に剃刀刃が収容されている。図12(a)に示すように、2つの外刃41，41の間には、上記と同様の皮膚押圧部材31が、当該剃刀装置40の軸方向に可動となるように取り付けられている。すなわち、2つの外刃41，41を跨ぐ形態で受板44が、その外刃41，41間に取り付けられ、剃刀装置40の軸方向に浮き沈み可能となっている。皮膚押圧部材31は、その受板44に取り付けられて、受板44の浮遊に伴って動くものとされている。この皮膚押圧部材31も、弾性変形可能な材質により構成されて、皮膚と当接する側の先端が曲面状とされたロール部を有している。なお、符号46は、上記の剃刀刃(内刃)を指しており、本体部40aに振動可能な状態で設置されている。

【0036】この場合、各外刃41，41のうち何れの方向から髭を剃る場合にも、皮膚押圧部材31が外刃41に先行して皮膚と当接し、効果的に皮膚を押圧して髭を起立させることができる。例えば、図18(a)及び(b)に示すように、異なる向きに生えた髭に対しても効果的に剃り落とすことが可能となる。すなわち、図18(a)のように、ある方向に寝た髭20を上記剃刀装置40により剃る場合、髭が寝た方向と逆の向きに剃刀装置40を押し当てながら滑らすと、皮膚押圧部材31に後行するヘッド部(外刃と内刃とにより構成される)150が、その皮膚押圧部材31が起立させた髭(図中Bの部分)を迎え入れる状態で剃り落すことができる。一方、図18(b)のように反対方向に寝た髭に対しては、当該剃刀装置40を図18(a)とは逆の方向に滑らすことで、一方のヘッド部160により起立した髭(符号Cの部分)を剃り落すことができる。このように、剃刀装置40は、それ自体を顔に対して往復させて滑らすことで、あらゆる向きに生えた髭を根元から剃り落すことが可能となる。なお、皮膚押圧部材31とヘッド部150，160の間には僅かな溝状の隙間が形成されており、その溝の間に入り込んだ髭が起立して後行するヘッド部150，160により剃り取られる。

【0037】なお、図12(b)に示すように、皮膚押圧部材31と本体部40aとの間にばね等の弾性機構を設ければ、図11のように皮膚押圧部材31の外刃41からの突出量を変化させることが可能となり、皮膚に対する押圧力を種々調節できるようになる。このような弾性機構は、皮膚押圧部材31を受ける上記受板44に設けられているが、図12(c)に示すように本体部40a側に設けることも可能である。また、図12(d)のように、皮膚押圧部材31を取り付ける受板44は、外刃41に対してではなく、本体部40aに対して弾性機構を介して取り付けることも可能である。

【0038】また、図21に示すように、皮膚押圧部材31はスライド機構により外刃41からの突出量を複数段階又は無段階に変更することができる。これは、概念的に図21(a)に示すように、皮膚押圧部材31の一端面に軸線状の支持部材48が取り付けられたもので、この支持部材48の側面には嵌合用の凹凸部48aが複数設けられており、この凹凸部48aに対してストッパ部49に設けられた凸部49aが嵌合位置を変化することでスライド自在とされている。

【0039】また、ストッパ部49の外側には、これらストッパ部49と支持部材48との嵌合状態(ロック状態)を挟圧保持するための挟圧部材(ロック手段)110が設けられており、この挟圧部材110は開口部110aから底110b側に向けてすり鉢状の窪みを有した略コ字状の部材であって、その窪みによりストッパ部49を挟圧している。図21(b)に示すように、挟圧部材110を上記窪み側(開口部110aと反対側)に移動させると、ストッパ部49に対する挟圧が開放されてストッパ部49と支持部材48との嵌合状態が解除され、支持部材48が軸方向に移動可能となる。その支持部材48の移動に伴って、皮膚押圧部材31の外刃41からの突出量を変化させることができるようになる。なお、図21(c)に示すように、支持部材48及びスト

ッパ部４９に凹凸あるいは凸部を設けずに両者の接触部分を平坦とし、挟圧部材１１０の挟圧のみにより支持部材４８を段階的にスライド可能とすることもできる。すなわち、皮膚押圧部材３１を軸方向へ不動とする場合は、挟圧部材１１０によりストッパ部４９と支持部材４８とを挟圧保持して、その挟圧により両者を固定し、皮膚押圧部材３１を動かす場合は、挟圧部材１１０の挟圧を上記と同様に解除すればよい。

【００４０】スライド機構については、図２２に示すような機構を採用することもできる。これは、本体部側嵌合部１１５に複数の凹凸部１１５ａが設けられ、一方、支持部材４８にはその凹凸部１１５ａに嵌合する凸部１１２が設けられた構成である。凸部１１２の凹凸部１１５ａとの嵌合が外れないように、凸部１１２の移動を妨げるストッパ部１１３が支持部材に設けられ、そのストッパ部１１３は弾性変形可能とされている。皮膚押圧部材３１を動かす場合は、ストッパ部１１３を弾性変形させて、凸部１１２の移動を許可する位置にストッパ部１１３を移動させ、凹凸部１１５ａから凸部１１２の嵌合が外れるようにする。

【００４１】すなわち、図２２（ｂ）に示すように、凹凸部１１５ａに嵌合した凸部１１２は、ストッパ部１１３により凹凸部１１５ａの凹部に対する嵌合が外れないようにされており、支持部材４８をスライドさせたい時は、ストッパ部１１３に設けられたノブ１１４を操作して（図面上では矢印方向へ押圧して）ストッパ部１１３を移動させ、図２２（ｃ）に示すように凸部１１２をストッパ部１１３に設けられた凹部１１３ａ側に移動可能とさせる。その結果、凹凸部１１５ａの凹部から凸部１１２の嵌合を外すことができ、凹凸部１１５ａの異なる凹部へ嵌合位置を変えることが可能となり、支持部材４８の軸方向への移動、すなわち皮膚押圧部材３１の突出量を変化させることが可能となる。

【００４２】図２３は、ノブ１１４が本体部４０ａに設けられた一例を示しており、このようにノブ１１４を例えば剃刀装置４０の上下方向に操作することで支持部材４８が上下に動き、それに伴って皮膚押圧部材３１の突出量が変化する。なお、図２２（ａ）に示した符号１１１は支持部材４８を軸方向の移動をガイドするためのガイド部材とされている。

【００４３】図２４は、このようなスライド機構を設けた場合の作用を説明する模式図であり、同図（ａ）に示したように、２つの外刃４１，４１の湾曲頂部により形成される面T1とほぼ同一面上に皮膚押圧部材３１の頂部が位置する時、皮膚押圧部材３１はスライドの最下点であり、上記ノブ１１４を上方に操作することで同図（ｂ）に示すように皮膚押圧部材３１が面T1から僅かに突出する。さらにノブ１１４を上方に操作すると、同図（ｃ）に示すように最大点に達する。逆に、上記ノブ１１４を下方に操作することで、同図（ｃ）から（ａ）へと皮膚押圧部材３１が本体部４１ａ内部に引込まれていく。

【００４４】なお、図２５に示すように、例えば上記支持部材を剃刀装置４０の側面から突出する形態とし、突出した部分４７を上記ノブ（１１４）とし、その突出部４７を操作して皮膚押圧部材３１を軸方向に動かすこともできる。図２６は、その突出部を有した剃刀装置における、支持部材４８及び皮膚押圧部材３１と、本体部４０ａとの組み付け形態を示す模式図で、本体部４０ａに設けられた本体部側嵌合部１１５に対して、上記の凸部１１２を有し、皮膚押圧部材３１と一体に形成された支持部材４８を嵌合する構成となる。そして、剃刀装置４０の側面に設けられたノブ１１４を操作して、支持部材４８、すなわち皮膚押圧部材３１を軸方向に動かすことが可能となる。

【００４５】また、図２７に示すような螺子を利用したスライド機構を導入することもできる。これは、剃刀装置４０の断面模式図（理解を容易にするためにねじ部材のみを拡大しており、寸法関係は正規のものではない）である図２７（ａ）に示すように、本体部４０ａの一側面を貫通する締結雄ねじ部材１１６が、本体部４０ａ内に収容され、雌ねじ部を有する皮膚押圧部材３１に螺合している。締結雄ねじ部材１１６を締める（締結方向に螺合する）と、皮膚押圧部材３１との螺合が進み、この両者が互いに引き合う状態となり、ある一定の締結力を超えると本体部４０ａの一側部を介して両者が締め付けられ、皮膚押圧部材３１が不動状態になる。すなわち、締結力によって図２７（ａ）において皮膚押圧部材３１を紙面に垂直方向な方向に不動状態にし、逆に、締結雄ねじ部材１１６を緩めることで、両者の締め付けが弱まり、皮膚押圧部材３１を締結雄ねじ部材１１６とともに動かすことができる。

【００４６】さらに、図２８に示すように、上記スライド機構を有した支持部材４８と、皮膚押圧部材３１とをばね１２０等の弾性手段を介して連結することもできる。この場合、スライド機構により皮膚押圧部材３１が剃刀装置の軸方向に段階的に可動でき、かつ、ばね１２０の弾性により皮膚の表面形態に対応して皮膚押圧部材３１が自在に伸縮することができるようになり、使用者の髭の生え状態及び顔形状にあわせて様々な態様で使用することが可能となる。

【００４７】また、これら電動剃刀装置４０の皮膚押圧部材３１は、図１３（ａ）に示すように、皮膚と当接する部分の内側に孔部３４ａを設けて中空状にし、その中空により弾性変形可能な構成とすることができる。一方、図１３（ｂ）に示すように、皮膚と当接する先端部が曲面状とされた略円柱の皮膚押圧部材３５を導入することもでき、図１３（ｃ）は、このような円柱の構成に加えて、孔部３６ａを設けて弾性変形可能としたものである。一方、図１３（ｄ），（ｅ）は、同図（ａ），

（ｃ）の皮膚押圧部材の中空端部を開口せずに、圧着等により密封状にした変形例である。この場合、髭等の剃り粕が中空３７ａ，３８ａ内に入り込むことを防止できる。

【００４８】図２９は図１０の電動剃刀装置６０の平面図（ａ）及びそのヘッド部分の断面模式図（ｂ）である。皮膚押圧部材３１の外刃４１からの突出量は、図２９（ｂ）に示すように、皮膚押圧部材３１の最大高さが外刃４１の最大高さと同じになる突出量ゼロとしたり、僅かに外刃３１から突出させたり、外刃３１の最大高さよりも低くなるように僅かに沈んで構成したりしてもよい。いずれの場合においても髭を起立させることは可能で、深剃り、且つ肌に対して刺激の少ない髭剃りを行うことができる。

【００４９】次に、電動剃刀装置６０に設ける皮膚押圧部材の変形例について説明する。図３０は、２つの外刃４１，４１の間に２つの皮膚押圧部材３１，３１が設けられ、さらに２つの皮膚押圧部材３１，３１の間に皮膚押圧部材３１ａが設けられた構成の電動剃刀装置の平面図（ａ）及びそのヘッド部分の断面模式図（ｂ）である。この場合、２つの皮膚押圧部材３１，３１の間に設けられる皮膚押圧部材３１ａは、例えばシリコン等の肌に優しい部材で構成することが可能で、肌に対してより刺激の少ない髭剃りを実現可能である。

【００５０】なお、このような円柱状等の皮膚押圧部材を、図４６に示すように可撓性のロール部材で周方向に取り囲んで、新たな皮膚押圧部材を構成することもできる。図４６（ａ）はその電動剃刀装置の平面図、同図（ｂ）はそのヘッド部分の断面模式図で、同図（ｃ）は皮膚押圧部材３１を模式的に示す斜視図である。この場合、円柱状の部材３１８が複数本（例えば３本）並列され、その複数本を可撓性の樹脂シート（ロール部材）３１７が取り囲んで皮膚押圧部材３１を構成しており、この皮膚押圧部材３１が２つの外刃４１，４１の間に配置されている。この構成の皮膚押圧部材３１においては、ロール部材３１７が柔軟な材質から構成されているため、肌に対する当たりが優しくなり、さらに滑らかな髭剃りが実現可能である。なお、円柱状の部材３１８は複数本を必ずしも並列させる必要はなく、複数本により凸凹が生じる形態で並べることもでき、また、１本の円柱部材３１８を上記ロール部材３１７で取り囲んだ構成とすることもできる。

【００５１】また、図３１に示すように、２つの外刃４１，４１の間に設けられた皮膚押圧部材３１とは別に、外刃４１，４１の側方（皮膚押圧部材３１が形成された位置とは対向する側）にも皮膚押圧部材３１ｂ，３１ｂをそれぞれ設けることができる。図３１は、電動剃刀装置の平面図（ａ）及びそのヘッド部分の断面模式図（ｂ）であって、この場合、２つの外刃のうち、いずれの外刃を先行させて髭剃りを行ったとしても、各皮膚押圧部材３１ｂが外刃４１（すなわち剃刀刃４６（図１２参照））に先行して皮膚を押圧して髭を起立させることが可能である。このように２以上の皮膚押圧部材を剃刀装置に設けることで、さらに滑らかな髭剃りが実現され（外刃が肌に直接当たることが低減される）、また、髭剃りに掛かる所要時間を短縮することも可能となる。なお、皮膚押圧部材３１ｂ，３１ｂは、図２５（ａ）に示す剃刀装置の本体部４０ａから連続の一体の部材として形成することも可能である。

【００５２】一方、図３３は一枚の外刃（内刃も一枚）４１ａから構成された、いわゆる一枚刃の往復式電動剃刀装置の平面図（ａ）及びそのヘッド部分の断面模式図（ｂ）である。この場合も、外刃４１ａの両側方部（長手方向に沿った側部）に皮膚押圧部材３１，３１が設けられている。この場合、図３３（ｃ）（平面図）及び図３３（ｄ）（断面模式図）に示すように、外刃４１ａの横方向（長手方向と交わる方向）における幅を小さくする（具体的には、皮膚押圧部材３１の幅よりも小さくする）ことで、より滑らかな深剃りを実現することが可能である。

【００５３】なお、上記のような皮膚押圧部材３１は、例えば図３４に示すように、電動剃刀装置の本体部４０ａに備えられた回転軸４０ｂを支点として、回転可能にすることもできる。この場合、剃刀装置に設けられる複数の皮膚押圧部材のうち、一部あるいは全部の皮膚押圧部材に対して回転可能にすることができる。なお、皮膚押圧部材の回転はモータ等の駆動部により電動式に回転させることもできる。また、電動剃刀装置における皮膚押圧部材の形状は円柱状の他にも、例えば図３５（ａ）に示すような略角柱状のものを採用することもできる。この場合、角柱の角に対して面取りあるいはＲを形成することが好ましい。また、図３６に示すような角柱の部材の皮膚当接面側が曲面状とされた、軸断面が鐘形の皮膚押圧部材とすることもでき、図３７に示すような半円柱もしくは円柱の一部を切り取った形態の皮膚押圧部材とすることもできる。さらに、図３８に示すような略扇形の断面形状を有する柱状部材の皮膚押圧部材を電動剃刀装置に備え付けることも可能である。

【００５４】また、皮膚押圧部材３１は図３９に示すように、その外周部（少なくとも皮膚と当接する部分の一部又は全部）を例えば多孔質体で形成し、その多孔質体に例えば石鹸、ローション、クリーム、オイル等を含浸させることが可能である。この場合、皮膚押圧部材３１が皮膚を押圧する際に、含浸された上記石鹸等が皮膚に塗り込まれるようになり、より滑らかで肌に優しい髭剃りを実現することができる。なお、多孔質体で形成される部分は、その押圧効果を阻害しない程度の強度を備えていることが好ましい。

【００５５】次に、図１４に示すような電動剃刀装置６０に皮膚押圧部材６２を設けることも可能である。電動

剃刀装置６０は、剃刀刃（内刃）が取り付けられた回転板を収容する３個の外刃を備えたヘッド部６１，６１，６１が本体部６８に略三角形のパターンで形成されており、各ヘッド部６１はそれぞれほぼ円柱状の形態であって、各ヘッド部６１の中心付近には皮膚押圧部材６２が設けられている。皮膚押圧部材６２は、図１７（ａ）に示すように、皮膚と当接する先端が曲面状の突起部６７を備えた構成であって、その突起部６７は外刃６４の表面上から突出しており、一方、突起部６７の下方は軸状の支持棒とされて、この支持棒が電動剃刀装置６０の本体部６８に設置されている。すなわち、皮膚押圧部材６２は、回転板１００の中心部を通り、外刃６４を貫通する形態で設けられ、その結果、突起部６７が外刃６４から突出している。

【００５６】なお、図１５及び図１６に示すように、２個の外刃を備えたヘッド部７１，７１を有した電動剃刀装置７０、及び１個の外刃を備えたヘッド部８１を有した電動剃刀装置８０に対しても、各ヘッド部７１，８１の中心付近に、図１７に示したものと同様の皮膚押圧部材７２，７２、及び皮膚押圧部材８２を設けることが可能である。

【００５７】皮膚押圧部材６２について、図１７（ｂ）に示すように、皮膚押圧部材６２ｂと本体部６８との間にばね等の弾性機構を設けることができる。これは、皮膚押圧部材を、例えば大径部（皮膚側に位置する部分）６６ａと小径部（本体部６８側に位置する部分）６６ｂとを有した皮膚押圧部材６２ｂとし、その小径部６６ｂの周りに位置するように、すなわち、大径部６６ａの小径部側端面６２ａに当接するようにばね（弾性機構）６３を設けた構成である。この弾性機構は、皮膚押圧部材６２ｂを当該剃刀装置６０の軸方向に付勢しており、このような皮膚押圧部材６２ｂは、外刃６４に先行して皮膚と当接し、人為的に押圧力を掛けなくても、弾性機構により効果的に皮膚を押圧して髭を起立させることができる。

【００５８】一方、図１７（ｃ）～図１７（ｆ）は、皮膚押圧部材の各種変形例を示している。図１７（ｃ）は、皮膚と当接する側の大径部６６ａを球状にした皮膚押圧部材６２ｃを有するものであり、その球体の小径部６６ｂ側端部にばね６３が当接するようになっており、図１７（ｄ）は、大径部６６ａが半球状の皮膚押圧部材６２ｄで、いずれも小径部がばね６３の中心軸内に嵌め込まれている。また、図１７（ｅ）は、皮膚押圧部材６２の内部を中空状に変形した皮膚押圧部材６２ｅで、その中空により全体が弾性変形可能とされている。図１７（ｆ）は、図１７（ｃ）の皮膚押圧部材６２ｃの球状部分を中空状にしたものである。なお、これら皮膚押圧部材は、弾性変形可能な樹脂等から構成すれば、中空状のもの、むく状のもの何れとも採用することが可能である。

【００５９】なお、回転式の電動剃刀装置において、図３２に示すように、ヘッド部（外刃及び内刃から構成される）８１の中心側に設けられた皮膚押圧部材８２以外にも、ヘッド部８１の外周縁部に皮膚押圧部材８９を設けることも可能である。図３２は、その電動剃刀装置の平面図（ａ）及び断面模式図（ｂ）であって、この場合、何れの周方向から髭剃りを行ったとしても、２つの皮膚押圧部材８２，８９により皮膚が押圧され、その中間に位置するヘッド部８１により起立した髭が剃り取られる。

【００６０】次に、図１９は、往復式の剃刀刃を有する電動剃刀装置の変形例である。これは、同図（ａ）に示すように、その剃刀刃（内刃）９０が本体部（取手部）９９の一端面に長手状に形成されたもので、その長手方向に連続して軸線状の凹部が形成されている。一方、その剃刀刃９０とほぼ同形状に弾性変形可能な外刃９１が、同図（ｄ）に示すように剃刀刃９０の上方から被せた状態となるように、本体部９９に着脱可能に取り付けられる。また、同図（ｃ）に示すように、外刃９１の上方から本体部９９に嵌め込むヘッド部９２には、上記皮膚押圧部材３１と同様の略円柱状の皮膚押圧部材９３が備えられており、剃刀刃９０に設けられた軸線状の凹部に、その皮膚押圧部材９３を収容した状態（同図（ｅ））で、髭剃り等に使用される。

【００６１】なお、図２０に示すように、皮膚押圧部材９３を外刃９１に取り付けることも可能である。この場合、皮膚押圧部材９３の軸方向両端部に凸部９３ａを設け、一方、ヘッド部９２にはその凸部９３ａが嵌合する凹部９２ａを設けることで、図１９（ｅ）に示した構成の電動剃刀装置を提供することができる。このような構成の電動剃刀装置は、１枚刃でありながら、皮膚押圧部材９３を介した２枚刃の構成とすることができ、簡易な構成で実際の２枚刃と同様の効果を発揮することが可能である。なお、外刃９１は１枚でなくても２枚以上に構成してもよく、上記図１３の例と同様、皮膚押圧部材９３には中空状等の様々な変形を施すことができる。

【００６２】更なる変形例として、図１において刃台２を取手部３に対して着脱可能に取り付けたり、刃台２が取手部３に対して所定の角度で回動可能となるように取り付けたりしてもよい。また、剃刀刃の枚数は２枚刃、３枚刃等の複数枚にすることもでき、ロール部材５を弾性変形可能な材質により構成することもできる。さらに、本発明に示した剃刀装置は、髭剃り用に限ることはなく、無駄毛剃り、産毛剃り、毛髪剃りとして用いることもでき、本発明に係る皮膚押圧部材をバリカン等に形成することも可能である。

【００６３】また、上記皮膚押圧部材の材質は、例えば、肌に優しい（刺激の少ない）材質（例えば天然材質、又はシリコン等の軟性材質等）や、電磁波遮蔽材質（例えばフェライト等の磁性材料等）、抗菌材質（例え

ばチタニア等の抗菌活性成分等）、放射性材質（例えばトルマリン等のマイナスイオン発生材質（鉱物）等）等を少なくとも含ませて構成することができる。

【００６４】一方、上記皮膚押圧部材には、髭を剃るための髭剃り手段を設けることができる。図４４はその一実施例であって、同図（ａ）に示すように網刃から構成される２つの外刃４１，４１の間に例えば金属（樹脂でもよい）等から構成される略半円筒状の皮膚押圧部材３１が設けられている。同図（ｂ）は皮膚押圧部材３１の平面図、同図（ｃ）は皮膚押圧部材３１の斜視図であって、皮膚押圧部材３１の皮膚を押圧する部分（皮膚押圧部材の頂となる部分）３１１とは異なる位置、詳しくは皮膚と当接しない位置に網状の髭導入部３１０が形成されている。この髭導入部３１０はいわゆる網刃として構成され、その皮膚押圧部材３１の内部には往復式の内刃４６が設けられ、その内刃４６と髭導入部３１０との間で髭を剃ることが可能となっている。なお、図４５に示すように、皮膚押圧部材３１３において所定の間隔、もしくは不規則の間隔毎にスリット状の髭導入部３１４を設け、上記内刃４６と髭導入部３１４との間で髭を剃る構成とすることもできる。

【００６５】また、図４７に示すように回転式の電動剃刀装置に設けた皮膚押圧部材にも髭剃り手段を設けることができる。この場合、例えば外刃８１の内側及び外側に設けられた２つの皮膚押圧部材８２，８９のうち、いずれの部材に対しても髭剃り手段を設けることが可能で、本実施例においては内側（中心側）の皮膚押圧部材８２に対してスリット状の髭導入部８００が、例えば外周縁部（肌と当接しない部分）において周方向に所定の間隔毎に設けられている。皮膚押圧部材８２は中空状に形成されており、その中空内部には回転式の内刃８０２が設けられており、その内刃８０２と髭導入部８００との間で髭を剃ることが可能とされている。なお、この場合の髭導入部８００も網刃形状とすることが可能で、また、その他の電動剃刀装置（３枚刃等の装置）にも上記髭剃り手段を設けることができる。いずれの場合も皮膚の押圧効果を阻害することなく、皮膚押圧部材の上記髭剃り手段によって、髭剃りに要する時間を大幅に短縮することが可能である。

【００６６】次に、皮膚押圧部材についてその他の変形例を示す。図４８に示す皮膚押圧部材３１５は、２つの円柱部材３１５ａ，３１５ｂから構成され、その２つの円柱部材の間には隙間が形成されている。この隙間により、肌との滑りが一層向上するものとなる。また、図４９に示す皮膚押圧部材３２０は、１つの略円柱状部材をその軸線方向に中心部を切り欠いた形態であって、その切欠部の両側には皮膚押圧部が形成されている。この場合も切欠部が隙間となって、この隙間により、肌との滑りが一層向上するものとなる。

【００６７】図５０の皮膚押圧部材３１９には、球体が軸線方向に連続で繋がった形態のもので、その球体により複数の凹凸（肌鎮圧手段）が形成された構成となっている。この場合、球体により形成される凸部が肌を鎮圧し、良好な髭剃りに加えて、肌がマッサージされて美容効果も付加されることとなる。

【００６８】一方、図５１に示す皮膚押圧部材３１６は、２つの円柱部材３１６ａ，３１６ｂが弾性変形可能なゴム状部材３１７により連結された構成のものである。この実施例においては、２つの円柱部材３１６ａ，３１６ｂがストッパ部３１８を介して接近離間自在にされている。具体的には、各円柱部材３１６ａ，３１６ｂは剃刀装置４０の長手方向（上下方向）に移動不可能とされるとともに、２つの円柱部材３１６ａ，３１６ｂの下方内面側にはテーパが施され、そのテーパ角度に接する傾きの面取りがストッパ部３１８の上方外面側に形成され、ストッパ部３１８を電動剃刀装置４０の側面に設けられた操作部３１８ａにより上下方向にスライドすることで、２つの円柱部材３１６ａ，３１６ｂが接近離間する。さらに詳しくは、図５１（ｂ）に示すように、ストッパ部３１８を最も上方にスライドした状態では、ゴム状部材３１７を弾性変形させつつ２つの円柱部材３１６ａ，３１６ｂが離間される。この場合、２つの円柱部材３１６ａ，３１６ｂはゴム状部材３１７により接近方向に付勢されており、ストッパ部３１８は図示しない係止部材により下方へのスライドが防止されている。一方、図５１（ｃ）に示す状態では、ストッパ部３１８が下方にスライドされ、ゴム状部材３１７の弾性変形（付勢）により２つの円柱部材３１６ａ，３１６ｂが接近する。このように２つの円柱部材３１６ａ，３１６ｂを接離自在にすることで、両部材３１６ａ，３１６ｂ間に形成される隙間の量を変化させることが可能となる。

【００６９】また、図５２に示すように、皮膚押圧部材３１を外刃４１と一体的に構成することもできる。この場合、ヘッド部３００は外刃４１と皮膚押圧部材３１とからなり、製造工程において外刃４１と皮膚押圧部材３１とを例えばプレス加工等により一体で製造することが可能となる。なお、図５３に示すように皮膚押圧部材３１に対して、皮膚押圧部材の保護及び装飾性向上のためにカバー部材３０１を着脱させることもできる。このカバー部材３０１の材質は特に限定されるものではなく、高さ、幅、色等種々異なるものを採用することが可能である。

【００７０】一方、図５４においては、皮膚押圧部材３２０は外刃４１を備えたヘッド部３２２に対して着脱自在に設けられている。皮膚押圧部材３２０には円柱の軸線方向に沿って突状部３２０ａが形成され、ヘッド部３２２には、突状部３２０ａの幅、高さに対応した溝３２３が形成されて、溝３２３に突状部３２０ａを嵌め込むことで着脱が可能にされている。なお、同図（ｃ）に示すような楕円形状の皮膚押圧部材３２１についても同様

の着脱を行うことが可能である。

【００７１】図５５においては、外刃４１を覆うカバー部材４３０がヘッド部に着脱自在に設けられている。これは、外刃４１の機能を任意に停止させるためのもので、例えば、図５６に示すように、揉み上げ部分の毛を剃るときに、剃りたい部分にカバー部材が装着されていない外刃４１（図中Ｂ側）を当て、同時に皮膚押圧部材３１を皮膚に対して押圧させる。その後、剃刀装置４０を該外刃４１側（図中Ｂ側）に移動させ、揉み上げ部分の毛を剃ることができる。この場合、図中Ａ側の外刃にはカバー部材４３０が装着されているため、剃りたい部分よりもＡ側の毛が余分に剃り落とされることが防止されている。

【００７２】次に、皮膚押圧部材３１は、蛍光性の材質により構成し、意匠的に装飾性を向上させることもできる。なお、当該皮膚押圧部材３１に電球、発光ダイオード等を組み込んだりすることもできる。また、肌に良い光線（例えば遠赤外線等）を出す発光部や、熱を発する発熱体等を皮膚押圧部材内部に組み込ませることも可能で、この場合、肌を温めて髭を軟らかくし、髭剃りをよりスムーズに行うことができ、また、冬季には皮膚に冷たさを感じさせないものとなり、さらに、光線、発熱体等により殺菌効果も発生する。

【００７３】図５８に示した皮膚押圧部材３３８は、２つの半円柱状部材がその平面部同士が重なりあって１つの円柱状部材を成すものであって、少なくとも上方に位置する半円柱状部材３３８ｂが透明又は半透明の透視性部材から構成されている。そして、下方に位置する半円柱状部材３３８ａの平面部には文字、絵画等の装飾手段３３９が書き込めるものとなっており、これにメッセージや美しい模様等を書き込むことで美観性を向上させることが可能である。

【図面の簡単な説明】

【図１】本発明の剃刀装置の一実施例を示す全体斜視図。

【図２】剃刀装置の刃台と、それに取り付けられる剃刀刃及びロール部材とを示す斜視図。

【図３】剃刀刃及びロール部材の位置関係を示す説明図。

【図４】ロール部材の刃台への取り付け例を示す図。

【図５】ロール部材の刃台への取り付けの変形例を示す図。

【図６】図１のロール部材と、その幾つかの変形例を示す図。

【図７】本実施例に剃刀装置を用いた場合の髭の状態変化を示す図。

【図８】本発明の剃刀装置の一変形例を示す図。

【図９】図８の剃刀装置の回動機構を示す部分拡大断面図。

【図１０】本発明の剃刀装置の一実施例として往復式の電動剃刀装置を示す図。

【図１１】図１０の剃刀装置の皮膚押圧部材が変動した例を示す図。

【図１２】図１０及び図１１の剃刀装置について、皮膚押圧部材の構成を拡大して示す断面図、及び皮膚押圧部材の各変形例を示す断面図。

【図１３】図１０及び図１１の剃刀装置について、皮膚押圧部材の各変形例を示す斜視図。

【図１４】本発明の剃刀装置の一実施例として回転式の電動剃刀装置を示す図。

【図１５】図１４の剃刀装置の一変形例を示す図。

【図１６】図１４の剃刀装置の一変形例を示す図。

【図１７】図１４ないし図１６の剃刀装置について、皮膚押圧部材の構成例及び各種変形例を示す断面図。

【図１８】電動剃刀装置を用いたときの髭の状態変化を説明する図。

【図１９】図１０の電動剃刀装置の一変形例を示す図。

【図２０】図１９の電動剃刀装置の構成部材の一変形例を示す図。

【図２１】皮膚押圧部材の一変形例として可動式のものを示す断面図。

【図２２】可動式の皮膚押圧部材の一変形例と、そのスライド機構を説明する断面模式図。

【図２３】皮膚押圧部材をスライドさせるためのノブの一形成例を示す図。

【図２４】皮膚押圧部材をスライドさせた場合の作用を説明する図。

【図２５】皮膚押圧部材をスライドさせるためのノブの一変形例を示す斜視図及び正面図。

【図２６】図２５の皮膚押圧部材を、剃刀装置の本体部に組み付ける例を模式的に示す斜視図。

【図２７】可動式の皮膚押圧部材の一変形例を示す断面図及び正面図。

【図２８】可動式の皮膚押圧部材について、さらに弾性機構を設けた一例を示す断面図。

【図２９】図１０の往復式電動剃刀装置の平面図及び断面模式図。

【図３０】皮膚押圧部材を２以上備える往復式電動剃刀装置の一例を示す平面図及び断面模式図。

【図３１】皮膚押圧部材を２以上備える往復式電動剃刀装置の一例を示す平面図及び断面模式図。

【図３２】皮膚押圧部材を２以上備える回転式電動剃刀装置の一例を示す平面図及び断面模式図。

【図３３】皮膚押圧部材を２以上備え、一枚刃の往復式電動剃刀装置の一例を示す平面図及び断面模式図。

【図３４】皮膚押圧部材を回転可能に取り付けた一例を示す説明図。

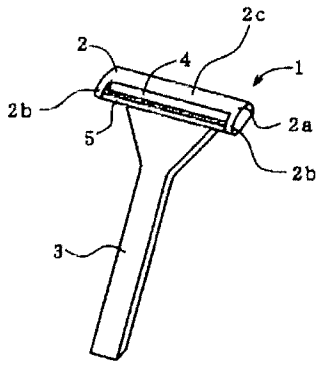
【図３５】皮膚押圧部材の一変形例を示す全体斜視図、及びそれを電動剃刀装置に組付けた際のヘッド部の断面模式図。

【図３６】皮膚押圧部材の一変形例を示す全体斜視図、及びそれを電動剃刀装置に組付けた際のヘッド部の断面模式図。
【図３７】皮膚押圧部材の一変形例を示す全体斜視図、及びそれを電動剃刀装置に組付けた際のヘッド部の断面模式図。
【図３８】皮膚押圧部材の一変形例を示す全体斜視図、及びそれを電動剃刀装置に組付けた際のヘッド部の断面模式図。
【図３９】皮膚押圧部材の一変形例を示す全体斜視図、及びそれを電動剃刀装置に組付けた際のヘッド部の断面模式図。
【図４０】図１の剃刀装置に２つの皮膚押圧部材を備え付けた一例を示す刃台付近の拡大断面模式図。
【図４１】図１の剃刀装置に２以上の皮膚押圧部材を備え付けた幾つかの変形例を示す刃台付近の拡大断面模式図。
【図４２】２枚刃を有する手動剃刀装置に皮膚押圧部材を備え付けた幾つかの例を示す刃台付近の拡大断面模式図。
【図４３】２以上の皮膚押圧部材を備えた手動剃刀装置について、その作用を説明するための拡大断面模式図。
【図４４】皮膚押圧部材に設けた髭剃り手段の一例を説明するための往復式電動剃刀装置の要部断面模式図、平面図、及びその皮膚押圧部材を模式的に示す斜視図。
【図４５】皮膚押圧部材に設けた髭剃り手段の一変形例を説明するための往復式電動剃刀装置の平面図、要部断面模式図、及びその皮膚押圧部材を模式的に示す斜視図。
【図４６】皮膚押圧部材の変形例を説明するための往復式電動剃刀装置の平面図、要部断面模式図、及びその皮膚押圧部材を模式的に示す斜視図。
【図４７】皮膚押圧部材に設けた髭剃り手段の変形例を説明するための回転式電動剃刀装置の平面図、及び断面模式図。
【図４８】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図。
【図４９】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図。
【図５０】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図。
【図５１】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図、及びその機構について説明する図。
【図５２】皮膚押圧部材を外刃と一体的に形成した一例を模式的に示すヘッド部の斜視図。
【図５３】皮膚押圧部材に対し着脱自在のカバー部材を設ける一例を模式的に示すヘッド部の斜視図。
【図５４】皮膚押圧部材を着脱自在に設ける一例を模式的に示すヘッド部の斜視図。
【図５５】外刃に対し着脱自在のカバー部材を設ける一例を模式的に示すヘッド部の斜視図及び側面図。
【図５６】図５５の構成のヘッド部を有した剃刀装置の一使用例を示す説明図。
【図５７】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図。
【図５８】皮膚押圧部材の一変形例を模式的に示すヘッド部の斜視図。

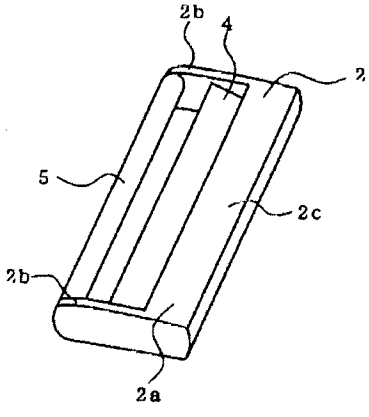
【符号の説明】

１，１５，４０，６０，７０，８０　剃刀装置
２　刃台
２ａ　皮膚当接面
２ｂ　取付部（皮膚押圧部材取付部）
３　取手部
４，１６，４６，９０　剃刀刃（内刃）
５，１７，３１，４２，６２，７２，８２，９３　皮膚押圧部材
６　溝部
８　突状部（皮膚押圧部材取付部）
１８　継ぎ手（皮膚押圧部材取付部）
６３　ばね部材（弾性機構）

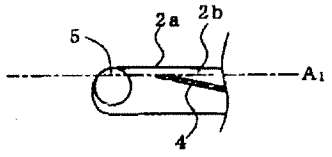
【図１】



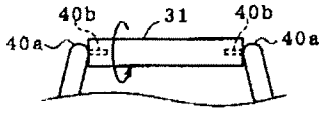
【図２】



【図３】



【図３４】



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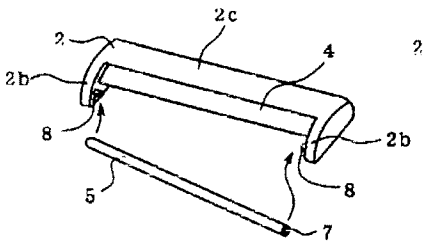

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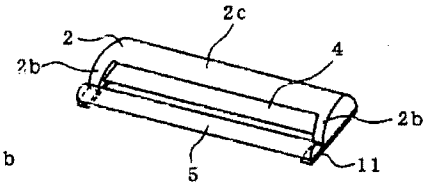

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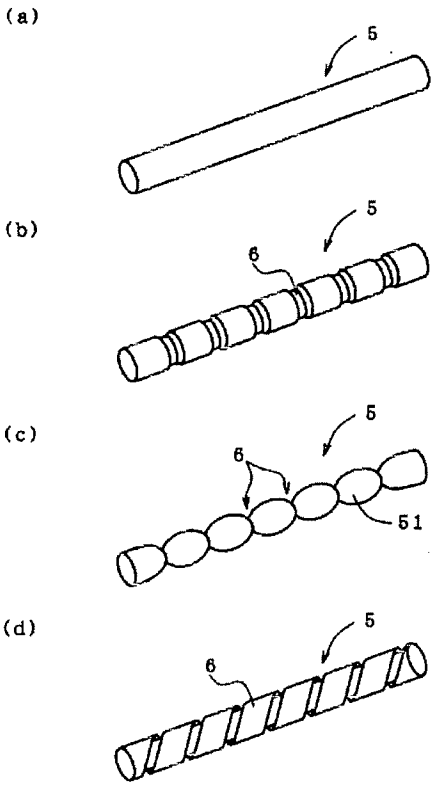

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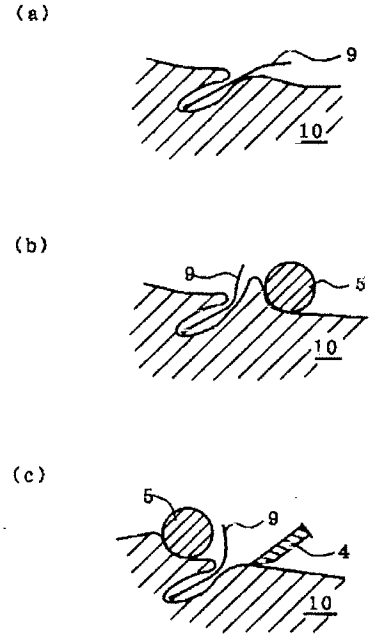

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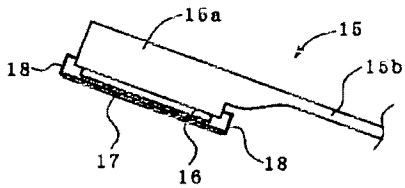

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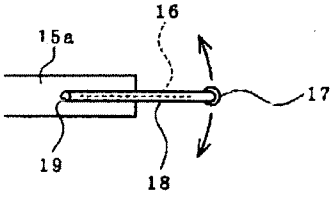

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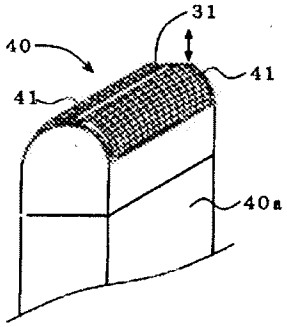

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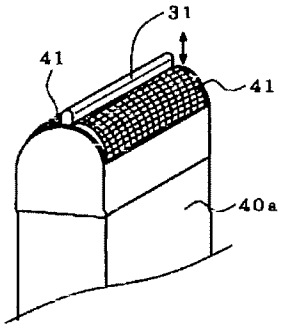

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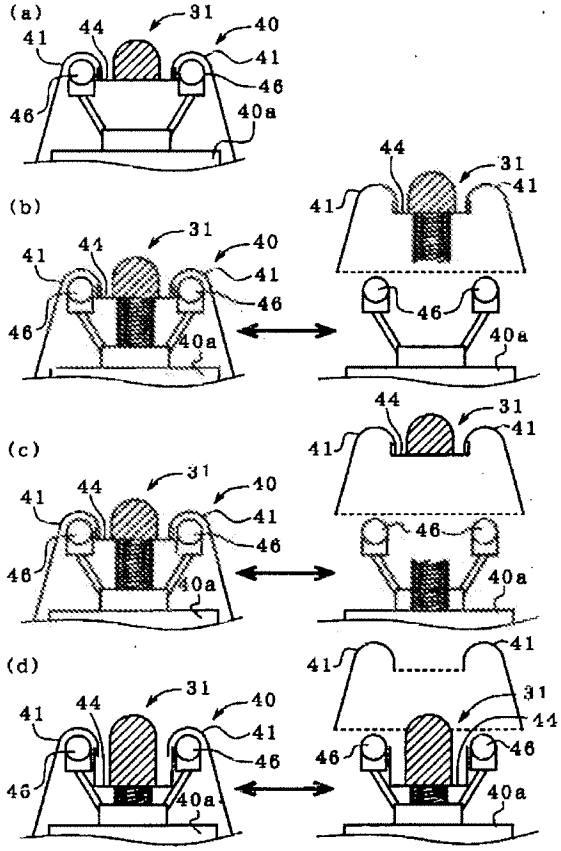

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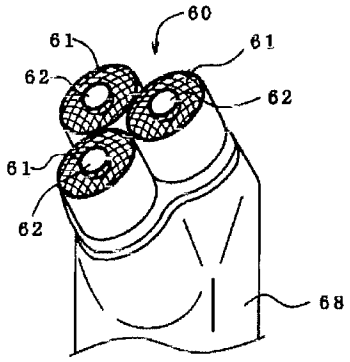

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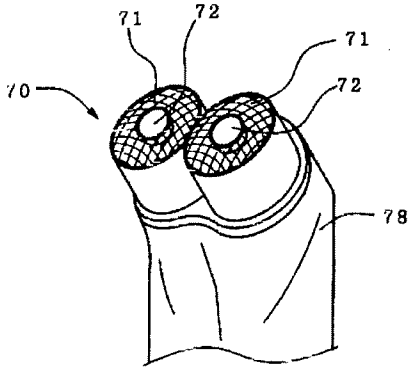

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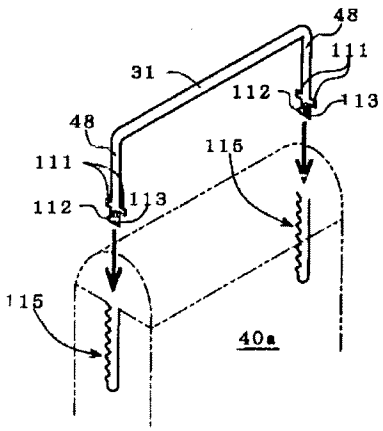

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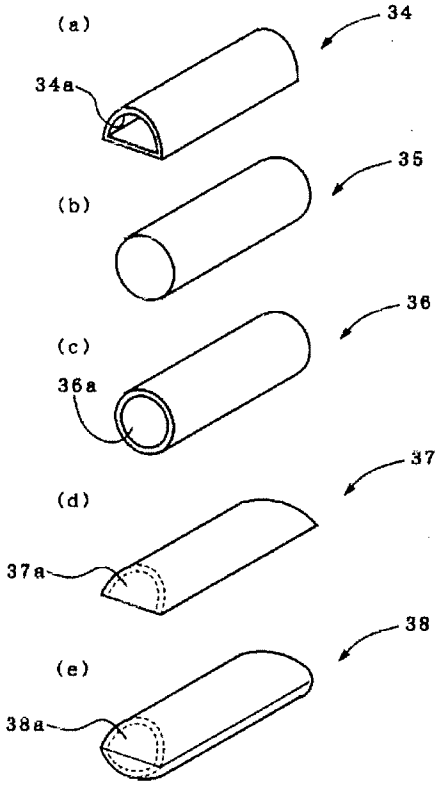

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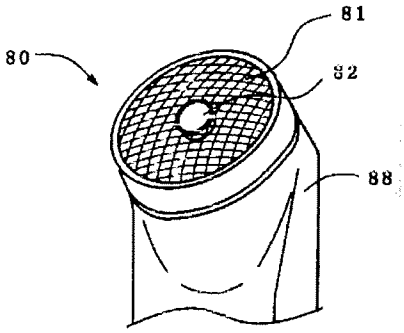

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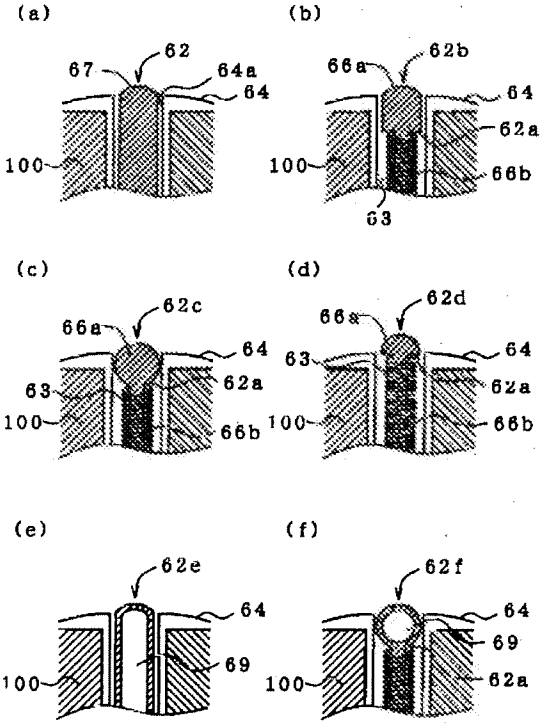

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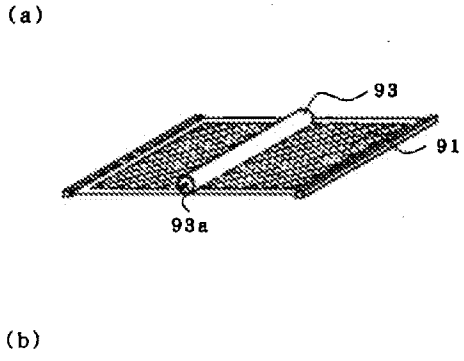

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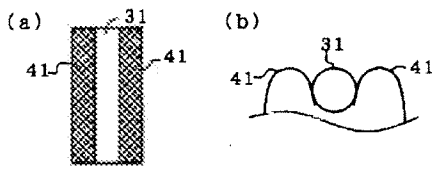

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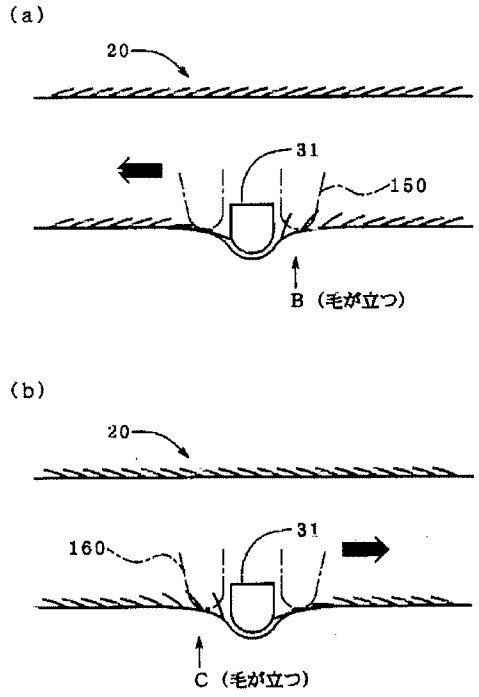

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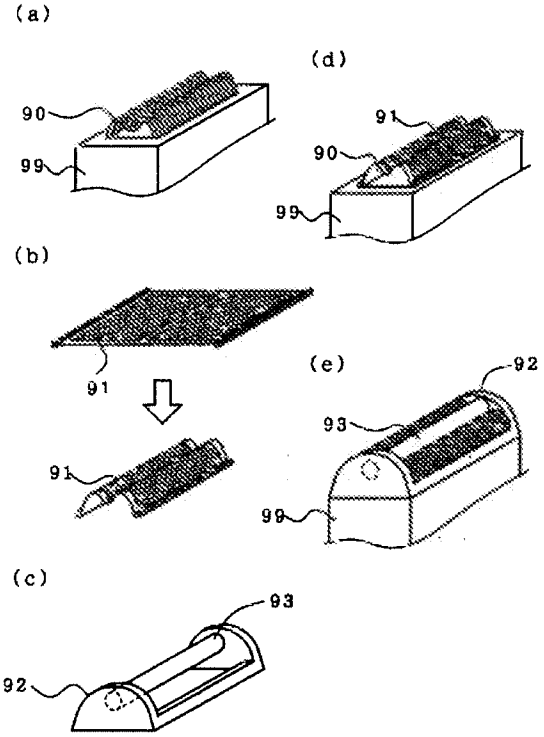

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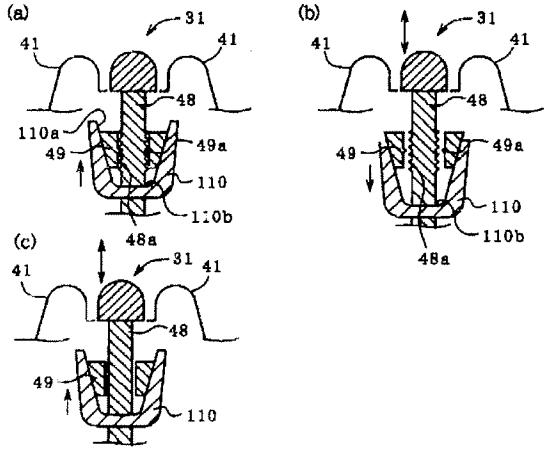

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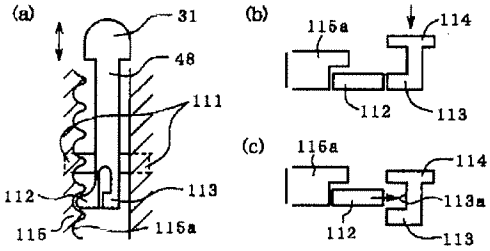

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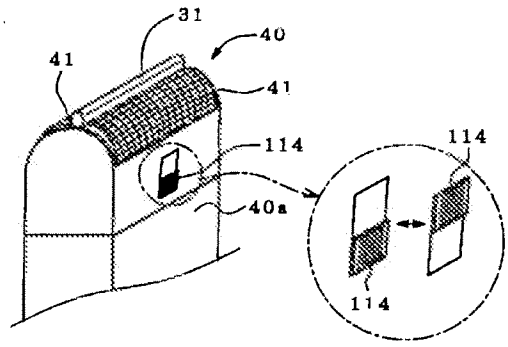

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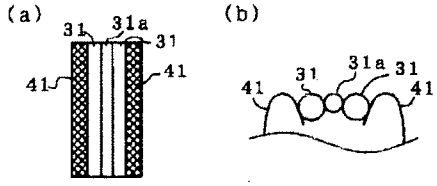

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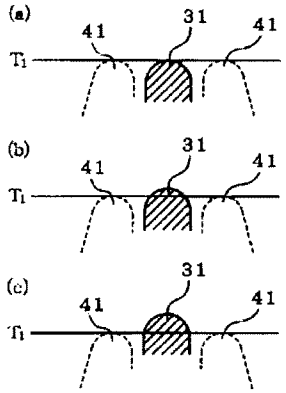

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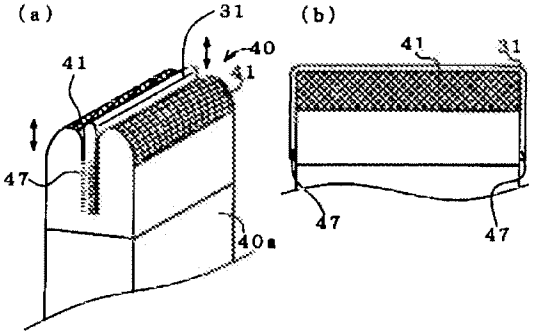

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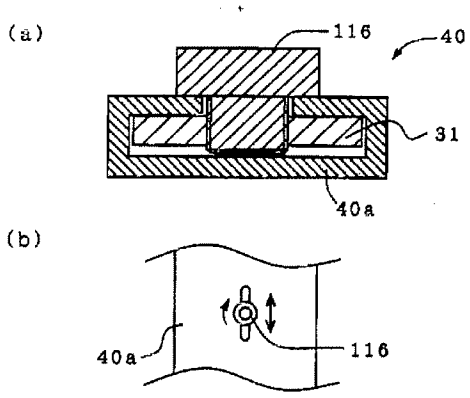

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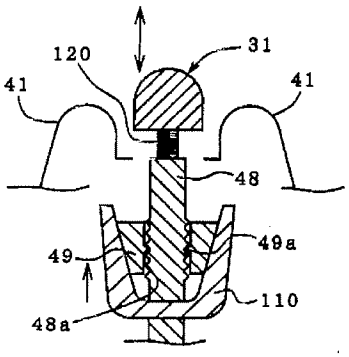

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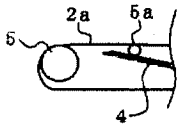

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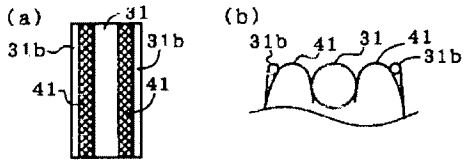

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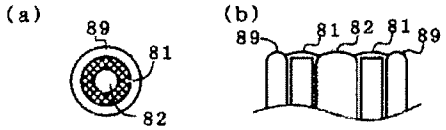

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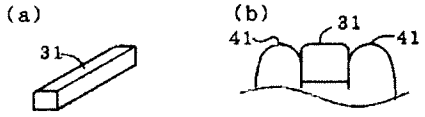

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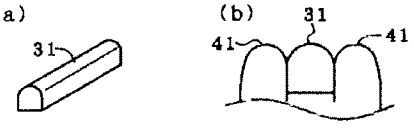

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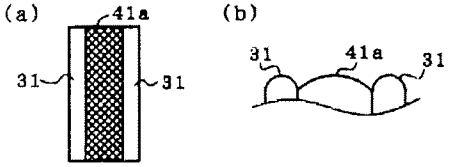

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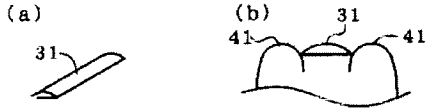

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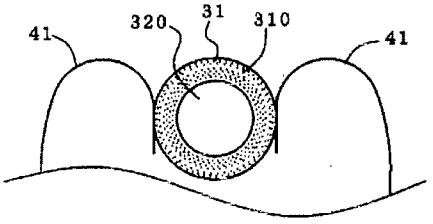

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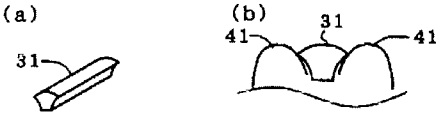

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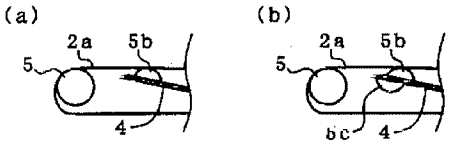

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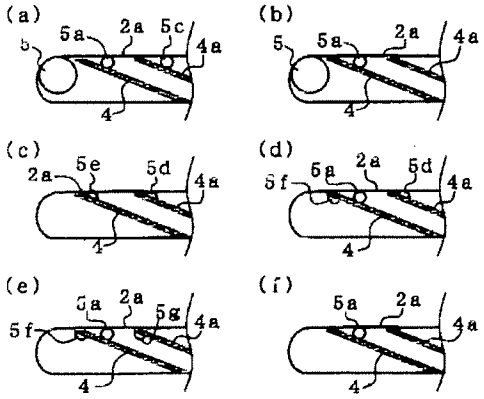

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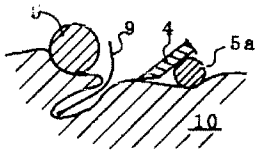

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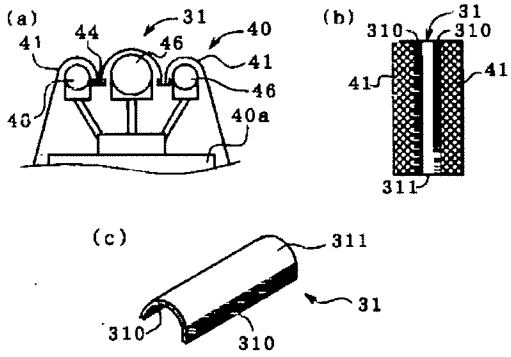

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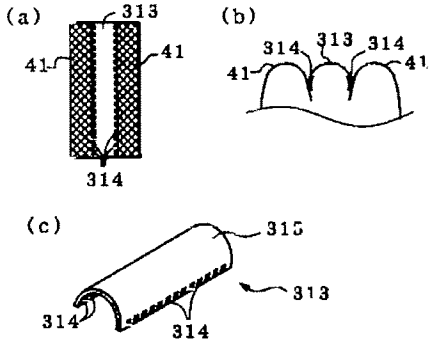

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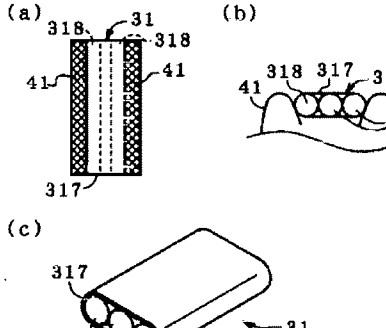

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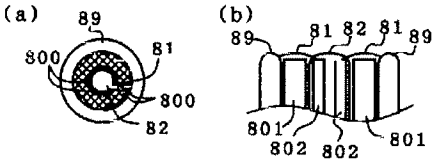

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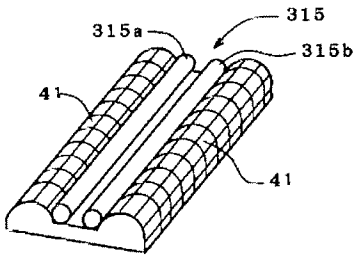

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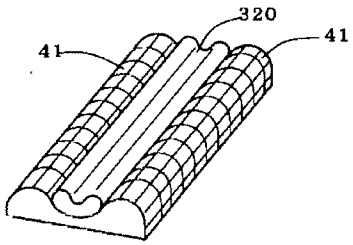

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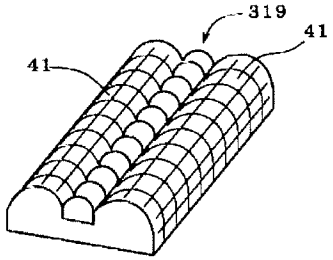

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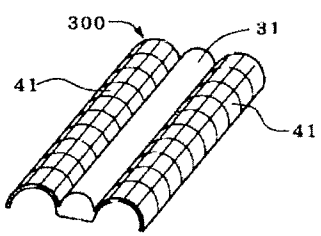

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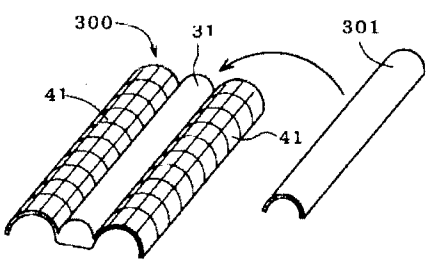

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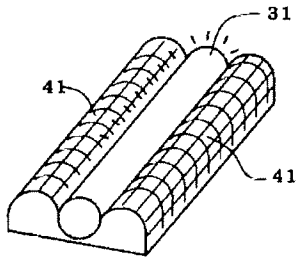

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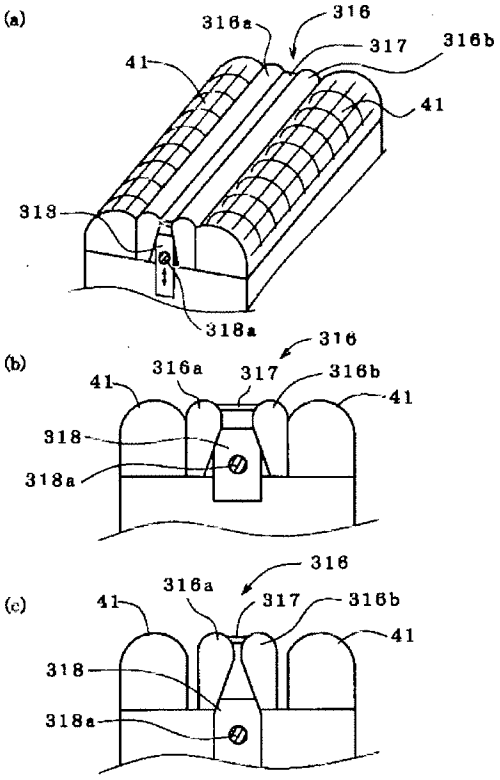

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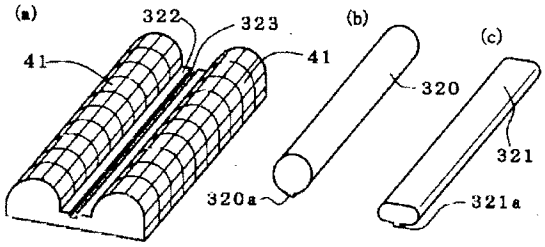

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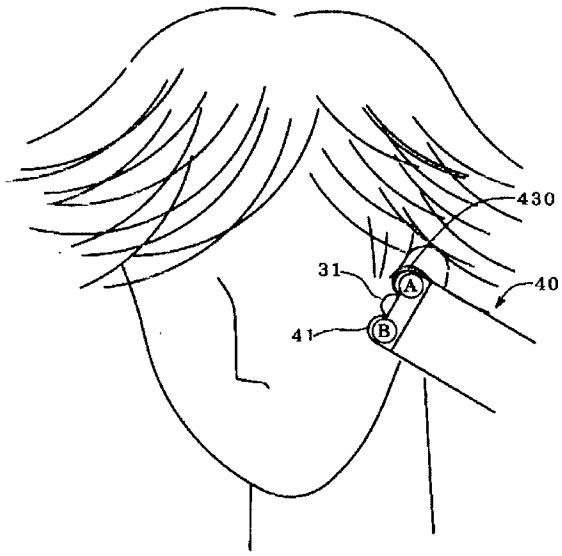

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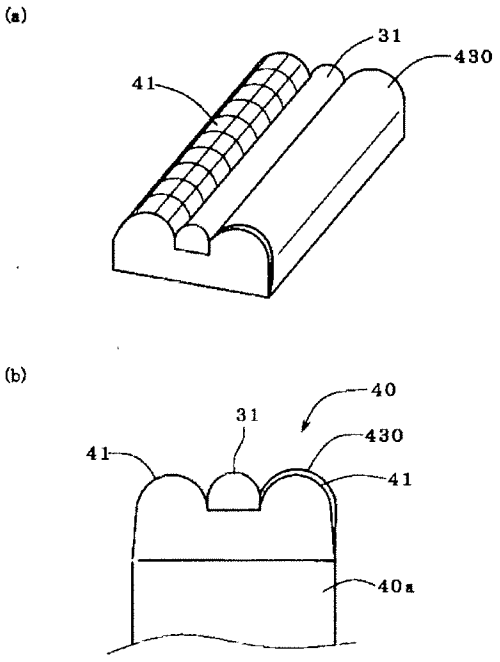

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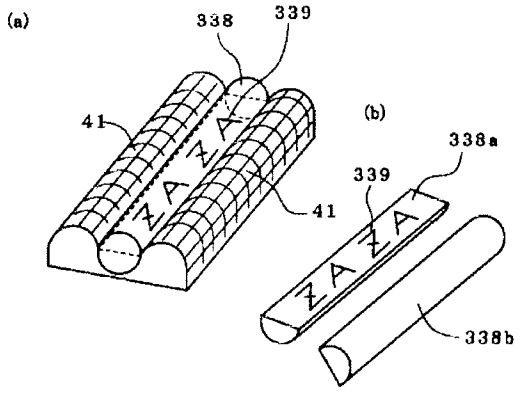

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Speaker Placement for Home Theater

Julie Govan — Sep 08, 2009

Whether you're planning a budget home theater system, or working with high-end A/V gear, paying attention to the location and positioning of your speakers usually pays off with a big improvement in sonic performance. If you're in the process of choosing home theater speakers, knowing the basics of speaker placement can help you make the smartest choice for your specific room.

You can watch our video on speaker placement to get familiar with the basics, or find more in-depth placement tips below. Keep in mind that there are too many variables involved for there to be a single "magic spot" that's always best. Every speaker has different sonic characteristics, every room has different acoustic properties, and everyone's ears hear sound a little differently. So use the tips presented in this article as guidelines, but when it comes time to actually set up your speakers, let your own ears be the final judge. And remember to read the owner's manual that came with your speakers — manufacturers sometimes offer model-specific recommendations for ideal placement.

Your center channel speaker

Your center channel speaker should be the first speaker you place in your home theater room. Because your center channel speaker's job is to anchor dialogue and other on-screen sounds to the screen, its position depends upon where you put your TV.

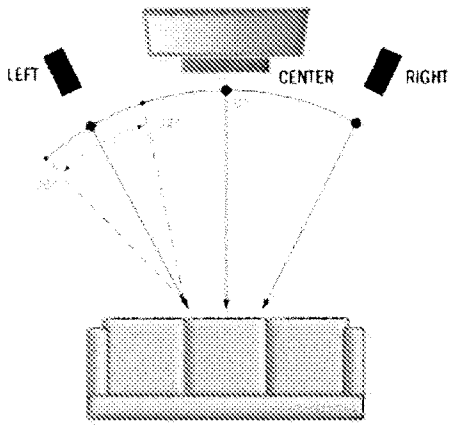
- Place your center channel directly above or below your TV — centered, if possible.
- If it's atop your TV, make sure the speaker's front edge is precisely aligned with the front edge of your TV screen. This reduces distortion caused by sound reflecting and diffracting off the TV's cabinet.
- If possible, the height of the center channel speaker's tweeter should be close to the height of your front speakers' tweeters — ideally, within about 24" or less. If you're placing the center channel on a particularly low cabinet where this might be a problem, then you can also use your center speaker's cradle (if it comes with one) to angle the sound up towards your listening position.
- Your center channel speaker should be precisely the same distance from your listening position as your front left and right speakers. (See below for details on front left and right speaker placement.)

Your front left and right speakers

Your front speakers pull double duty: along with handling movie soundtracks, they're responsible for reproducing all of the sound when you listen to stereo music. This makes their position relative to your listening position especially important.

- Position your front left and right speakers in front, and at equidistant points to the left and right, of your primary listening spot. Together with your center channel speaker, they should form a slight arc, so that all three speakers are exactly the same distance from where you sit, with the tweeters from all three front speakers aimed at your ears. We recommend measuring the distances — just an inch or two can actually make a noticeable difference in the way your system sounds.

- If you'd like a more precise guideline to follow, your front speakers should be at a 22°-30° angle with respect to your television. In other words, imagine you were to draw two lines — one from your listening position to your television, and one from your listening position to your right speaker. The two lines should create an angle somewhere between 22 and 30 degrees. The same holds true for the left speaker. (See illustration above.)
- For the best possible sound, the tweeters should be at ear level when you're seated. Most floor-standing speakers are designed with this in mind; smaller speakers can be positioned on stands or mounted on the wall to achieve the proper height.
- Make sure there are no solid objects (like furniture) blocking the pathway of the sound traveling to your listening location.

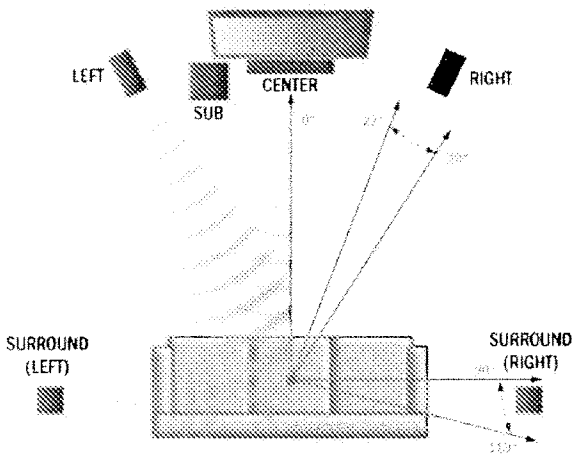


Try to place your left front, center channel, and right front speakers equidistant from where you sit

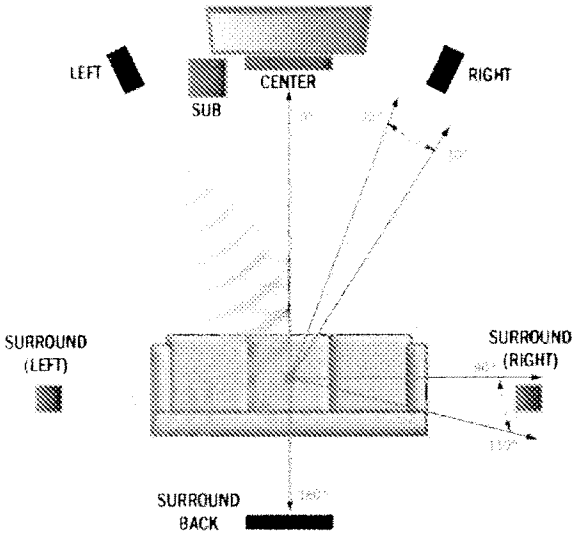
Your surround speakers

Your home theater's surround speakers are there to envelop you in a cloud of atmospheric sound and special effects, so you feel like you're actually in the middle of the action. We've offered some recommendations to help you achieve this effect, but it's important to note that surround speaker placement is one area where positioning may vary widely. An approach that works well for a friend or neighbor may not even be possible for you, given the shape and layout of your home theater room. Feel free to experiment — what matters most is how it sounds to you. And get room-friendly tips for running cable to your surrounds in our article on connecting home theater speakers.

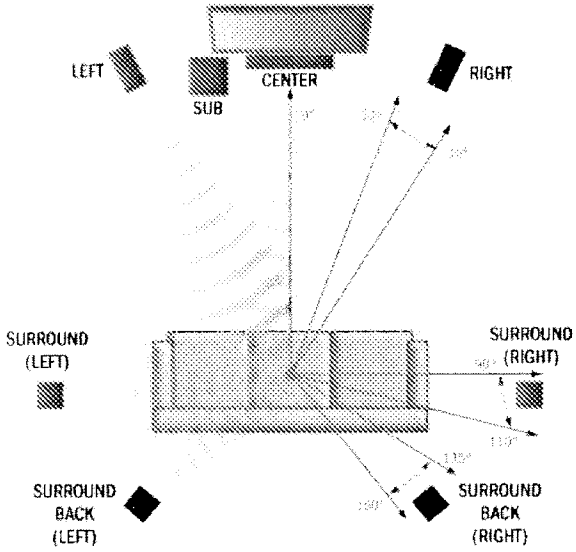
- Ideally, your primary pair of surround speakers should be placed to the left and right of your listening position — either in line with it, or just behind it. They should form a 90°-110° angle with respect to your television. (If you were to draw two lines — one from your listening position to your TV, and one from your listening position to one of your surround speakers — the lines should cut out an angle somewhere between 90 and 110 degrees.)
- If you have a 6.1-channel or 7.1-channel system with more than two surround speakers, or if side placement isn't available for your surrounds in a standard 5.1-channel setup, consider placement behind your listening position, facing the front of the room.
- Surround speakers should be placed high enough so that the drivers do not fire directly at your ears when you're sitting down — one rule of thumb is to place them at ear level while standing. (If your surround speakers fire directly at your ears, they can overpower your front speakers.)
- If your surrounds are mounted on the side walls on adjustable brackets, experiment with aiming them. You may get good results from pointing them at the ceiling or toward the rear corners of the room.
- If no side or rear walls are available for mounting your speakers, try placing a pair of traditional bookshelf speakers on speaker stands, slightly behind and to the sides of your listening position. Avoid aiming them directly at your ears. You can also try in-ceiling speakers.
- Surround speaker placement which is ideal for home theater is not necessarily perfect for multichannel music listening, where a precisely focused rear soundstage is best. If both types of listening are important to you, then you can position your surround speakers for a compromise between the two.
- If you mount the rear speakers on the wall, try to mount them to wall studs to keep them from falling — an insecure mount can mean damage to your speakers, your drywall, and possibly furniture. Stud finders are available at most hardware stores. If mounting to studs isn't possible, wall anchors should be used to make a solid connection to your drywall. Most speaker mounts include wall anchors.



5.1-channel setup with the surround speakers wall-mounted to the sides of, or slightly behind, the listening position.



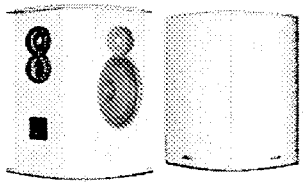
6.1-channel setup with the surrounds wall-mounted to the sides of the listening position, and one back surround wall-mounted behind the listening position



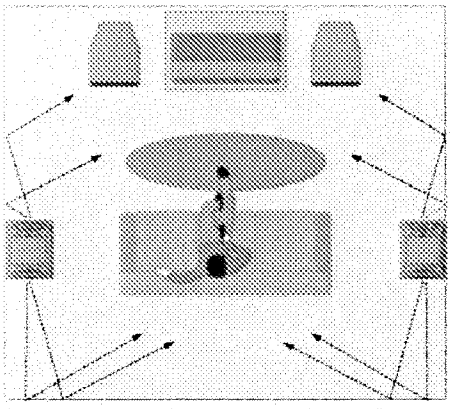
7.1-channel setup with the surrounds wall-mounted to the sides of the listening position, and two back surrounds wall-mounted behind the listening position

Dipole and bipole speakers

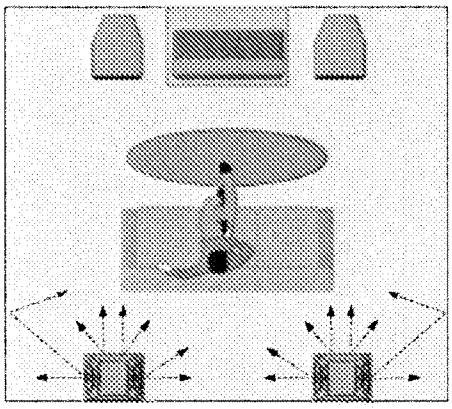
Some manufacturers offer dipole/bipole surround speakers (sometimes referred to as "Solid/Diffuse" speakers) which are equipped with a switch for selecting between different modes of operation. Such speakers are often recommended as ideal for movie surround use, because of their ability to produce a diffuse soundfield, and their flexibility in a variety of placements. However, they are not as effective for multichannel music. Because they are most often seen in high-end, movie-focused home theater setups, our recommendations here focus on more commonly seen front-firing speakers and their use as surrounds.



This dipole/bipole speaker from Polk is specially designed with home theater surround sound in mind. (Polk Audio FXi A6 shown above)



Dipole mode creates a diffuse, ambient soundfield when the speakers are placed on the side walls.

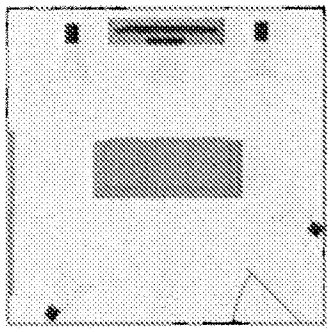


Bipole mode fills your room with surround sound when the speakers are placed on the rear wall.

Tips for odd-shaped rooms

Of course, not everyone's going to have the ideal room for a home theater system. Check out our article about getting good surround sound in real life rooms for tips on dealing with tricky layouts, like L-shaped rooms and open floor plans. We've also compiled some general tips below.

1. If your room accommodates it, try to make sure your listening position is somewhere in the middle of the room (i.e. away from the back wall) to improve the front soundstage and help the surround speakers work better.
2. Position the main speakers so that they fire into the length of the room, rather than the width.
3. If you want the best surround effects, place the surround speakers on floor-stands. You'll want them to be at roughly equal distances from your listening position.
4. If stands aren't an option, you can also wall-mount your surround speakers. You can even mount them to a joist in the ceiling, if you've got a ceiling-mount bracket, though your speakers might not sound their best when placed that high. Again, you'll want your surrounds to be roughly equal distances from your listening position.
5. For a really clean look, try in-wall or in-ceiling surrounds. Check out our placement guidelines for these types of speakers, or watch our short in-wall speaker installation video to get an idea of what's involved.
6. If you have to place the rear speakers at different distances from your listening position because of a door or window, then you can use the speaker levels in your receiver to help compensate for that difference, or rely on your receiver's auto-calibration to handle that for you. It'll work best if the difference in distance is 5 feet or less.
7. You can also adjust speaker levels to compensate for differences in distance between your front left and right speakers. However, we recommend you try and place them equidistant from your listening position, or within a few inches of that, whenever possible. You'll notice more subtle differences in volume and timing in the front soundstage than you will in the back.



Here we moved the speaker to the back to avoid a window. You'd probably need to increase the left surround speaker's levels on your receiver to compensate. Alternatively, you could mount the speaker higher up, above the window.

Your subwoofer

A powered subwoofer delivers crucial impact in a home theater system, but is one of the least demanding speakers to position. Since low bass frequencies are omnidirectional, you can usually place your subwoofer just about anywhere in your home theater room, with good results.

- Placing your subwoofer near a wall will generally result in more bass, and placement near a corner — where three room boundaries come together — will get you even more. Keep in mind that even though the bass increases as you place the sub near a wall or corner, the quality of bass may be slightly "boomier" and less controlled. Aim for a spot where you get a compromise between quality and quantity of bass.
- One cool technique for placing for your subwoofer is to put your sub in your listening spot, play some music, move around the room, and listen. You'll probably notice that the bass sounds a little bit different as you move around from location to location within the room — where it sounds the best may be

where you want to put your subwoofer.

- Many powered subwoofers are equipped with a phase control — usually a 2-position switch. Choose the setting that produces the most bass while all your speakers are playing.

After you've got your sub where you want it, check out our article on tuning your subwoofer for more tips on how to get great bass.

Your room

One thing to remember when setting up your speakers is that your room plays a key role in how your system will sound. Your room's shape, layout, and where the speakers are placed in the room are all factors that will affect a home theater system's performance.

- Placing your front speakers next to a wall will slightly increase their bass output. This can improve the sound of smaller, bass-shy satellite speakers, but can muddy the sound of floor-standing speakers. Conversely, bringing speakers out from the wall may lessen their bass response but improve clarity.
- A room with too many reflective surfaces, such as windows and tile, can add harshness to the sound or make it seem too bright. Adding carpets or drapes can help your system sound much more natural.

Unfortunately, there are too many variables in your room to be able to account for them all. That's why most newer receivers come with automatic speaker calibration. This feature uses a microphone to record and measure test tones played through your speakers. The time it takes for the sound to reach the microphone, along with the strength of the sound and other factors, tells your receiver what kind of speakers you have, their placement in relation to your listening position, and how the sound they produce reacts in your particular room. The receiver can then make adjustments to ensure that you get the best sound in your room. Watch our short video on auto calibration to learn more about how this works.

You can also check out our article on room acoustics for more information on how your room can affect your system's sound.